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IDENTIFIERS	Ben Hill Irwin Technical Institute GA

ABSTRACT

Ben Hill-Irwin Technical Institute and the Georgia Interconnect Association designed and developed jointly a project to provide basic knowledge and practical application skills training. The curriculum included all necessary competencies for a student to graduate as a communications network technician. To compensate for the added expense of relocating to a cooperative workplace for practical experience training, students were paid a stipend and limited travel allowance. The program consisted of four quarters of academic training at the institution and two quarters of practical work experience with a participating telecommunications company. Implementation required student and employer recruitment, student placement, student evaluation, and record keeping. Thirty-two students were accepted into the program in four different groups; 26 completed 4 academic quarters and were awarded diplomas, and 22 were placed and completed at least 1 quarter of co-op. Fourteen companies employed co-op students. (Twelve supplements are attached to the 12-page report: the grant application with appendixes and technical review forms; telecommunications technology program guide; student application package; recruitment materials; employer information booklet; minutes of advisory committee meetings; quarterly reports to the Department of Education; summary of industry evaluation; summary of student evaluations; curriculum revision; third-party program evaluation; and project description.) (YLB)

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ED340903

FINAL PERFORMANCE REPORT

TELECOMMUNICATIONS COOPERATIVE TRAINING PROGRAM

A Cooperative Demonstration Project
(High Technology)

Project Number V199A0001490

Funded by
Office of Vocational and Adult Education,
U.S. Department of Education

Submitted by
Ben Hill-Irwin Technical Institute
P.O. Box 1069
Fitzgerald, Georgia 31750

January 1992

CE 060 087

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TABLE OF CONTENTS

Background . . . . Page 1

Project Design . . . . Page 2

Implementation . . . . Page 6

Project Outcomes . . . . Page 8

Lessons Learned . . . . Page 10

Project Replication and Dissemination . . . . . . Page 11

Disclosure of Federal Funding . . . . Page 12

Supplement #1 - Grant Application

Supplement #2 - Program Guide

Supplement #3 - Student Application Package

Supplement #4 - Recruitment Materials

Supplement #5 - Employer's Information Booklet

Supplement #6 - Advisory Committee Meetings

Supplement #7 - Quarterly Reports to DOE

Supplement #8 - Summary of Industry Evaluations

Supplement #9 - Summary of Student Evaluations

Supplement #10 - Curriculum Revision

Supplement #11 - Program Evaluation by Polaris Corporation

Supplement #12 - Final Financial Status Report - Not Included

Supplement #13 - Video of Project-Not Included

Supplement #14 - Project Description

BACKGROUND

Research has indicated that telephone companies throughout the southeastern United States have stated that individuals making application for employment with telecommunications companies frequently possess the personal attributes that make good employees, but the applicants most often lack the training or the skills necessary to qualify for vacant or new positions. As a result of this circumstance, many companies are required to invest significant amounts of time and money in equipping new employees with basic, entry-level skills. In fact, a survey conducted in 1986 by the National Telecommunications Education Council indicated that the southeastern United States had the greatest shortage of trained technicians in the entire field of telecommunications (attachment to Supplement #1).

In 1989 the Georgia Interconnect Association (GIA) told Ben Hill-Irwin Technical Institute (BHIT) that new technicians must be competently skilled to provide services to a wide variety of clientele including manufacturers, hospitals, office buildings, apartment complexes, businesses, and single family dwellings (attachment to Supplement #1). GIA told BHIT also that the reorganization and changing environment of the telephone companies and the services they are expected to provide have exacerbated the problem of unskilled technicians who are expected to install, trouble-shoot, maintain, and repair telephone systems. In consideration of the dynamically sophisticated switching mechanisms now in use and of the advent of fiber optic equipment, the need for skilled, entry-level technicians takes on even greater significance.

BHIT began operating a Telecommunications Technology Program in the fall of 1988. In view of the information generated by the National Telecommunications Education Council survey and the GIA, BHIT had become very much aware of the role the school should play in finding a solution to the shortage of skilled technicians. It was obvious to the school's leadership that a partnership with the telecommunications industry could go a long way toward the resolution of the problem. In 1989 BHIT set about the task of determining how to approach such a partnership. Providing skilled, entry-level technicians would certainly alleviate part of the telecommunication industry's problem, but there remained the problem of creating a marriage between Telecommunications Technology Program graduates and employers.

The school concluded that a cooperative project with the telecommunications industry, partially funded by an outside agency, would enable BHIT to provide students with practical workplace experience to complement classroom and laboratory training. The school believed this approach would serve the needs of all three entities: employers would have access to skilled, entry-level technicians; program graduates would have a source of potential employers; and BHIT would have access to industry feedback to keep curriculum current. To that end BHIT tool the next step toward problem resolution by applying for and winning a cooperative demonstration grant from the US Department of Education. (A copy of the grant application is shown at Supplement #1.)

PROJECT DESIGN

Jointly designed and developed by BHIT and the GIA, the project includes training to impart to students basic knowledge and practical application skills. The curriculum includes all necessary competencies for a student to graduate as a network technician. It includes also a working knowledge of switching equipment, hand tools, test equipment, and a variety of equipment used throughout the telecommunications industry in conjunction with complex telecommunications systems. (A copy of the program guide is at Supplement #2.) The practical workplace experience phase of the training was designed to provide students with workplace experience supervised by industry employers.

To compensate for the added expense of relocating to a cooperative workplace site for the practical experience training, a stipend and a limited travel allowance were paid to students.

The program consists of four quarters of academic training at the institution and two quarters of practical work experience with a participating telecommunications company. Academic training follows instructional standards prescribed by the Georgia Department of Technical and Adult Education. Students who successfully completed the four quarters of academic training were awarded the Telecommunications Technology Program diploma. Practical workplace training was controlled by the participating employer and generally consisted of work for which the employer had contracted with a client.

The original design called for students to attend three quarters of academic training, participate in co-op for one quarter, return to school for the fourth academic quarter, and then finish one more quarter of co-op training.

The project was designed to provide the following benefits to industry, to the institution, and to the students:

Industry

1. Student program graduates will have gained work experience desired by employers.
2. The project will enhance employee retention; students will have had an opportunity to determine whether their chosen occupation was the correct choice.
3. The project will create a pool of skilled potential employees for telephone companies.
4. Employers will be able to reduce training time and cost for new employees.
5. Employers will have an opportunity to evaluate as potential full-time employees student participants working for them.
6. Employers will have an opportunity to provide feedback to the institution to ensure that the academic curriculum has met industry needs.

Institution

1. The school will have a pool of participating employers to hire program graduates and perpetuate the co-op program.
2. Employer feedback will enable the school to improve the curriculum and the co-op program effort continually.

The Students

1. The grant will permit financial support to students during the co-op phases of the project to ease the burden of added living expenses.
2. The grant will provide a tool kit to each student participant, a necessity for entry-level workers entering the telecommunications industry for the first time.
3. The project will establish a pool of potential employers for program graduates.
4. The academic and practical work experience gained by the student participants will enhance their employability.

Responsibilities of the three groups of participants were designated as follows:

Institution

1. Recruit and select student participants.
2. Provide academic and laboratory training in compliance with standards set forth by the Georgia Department of Technical and Adult Education.

3. Provide all administrative activities required to operate the project in compliance with USDE rules and regulations.
4. Handle payment of stipend and travel entitlements.
5. Establish and comply with local project rules and procedures.
6. Purchase and issue student tool kits.
7. Handle all financial, accounting, and audit requirements established by federal, state, and local board entities.
8. Recruit and secure participation agreements with industry.

Industry

1. Provide supervised work experience directly related to the duties of a telecommunications technician.
2. Provide an eight-hour work day for each student.
3. Pay students a reasonable entry-level wage.
4. Complete a periodic student evaluation and performance report.
5. Provide program feedback to the institution.
6. Cooperate with the project director in the conduct of his duties and responsibilities.

Students

1. Maintain satisfactory academic progress and employer performance evaluations.
2. Comply with employer's rules and procedures.
3. Comply with locally and federal generated project rules and procedures.

Administration

Staff

Project Director. The project director, employed on a half-time basis (20 hours per week), reported to the director of institutional advancement. His principal duties were the supervision and the coordination of all project activities. His salary was funded by the grant. Qualifications considered for the position included experience in the telecommunications industry, good management and organizational skills, and good interpersonal relationship skills.

Clerical Support. A clerk-typist was employed ten hours per week to support the project director. Her salary was paid by the grant.

Vice President of Administrative Services. The vice president of administrative services was assigned financial, accounting, and audit responsibilities for the project; and she ensured compliance with federal, state, and local fiscal regulations. The cost of her services and of those of her staff was considered a part of the indirect cost of the grant.

Vice President of Instruction. Two members of the staff of the vice president of instruction, both instructors in the Telecommunications Technology Program, provided the academic training of student participants. Their salaries were provided as matching in-kind funds for the project.

Director of Institutional Advancement. The director of institutional advancement, having overall responsibility for all grants in which the school participates, devoted approximately 15 percent of his time to the project. A portion of his salary was considered indirect project cost.

Advisory Committee

A project advisory committee - made up of industry representatives, the project director, and the lead program instructor - was designed to provide feedback to the project staff and to make recommendations for program and project improvement. The advice of the committee is particularly important in making the program curriculum relevant to the needs of industry.

Budget

Since the project was a cooperative demonstration effort, the grantor required that 25 percent of the project cost be borne by the school. Total project cost was $317,889. The grantor incurred $202,521 of the cost; and BHIT assumed responsibility for $115,368 in remaining costs. The school's share, which exceeded the 25 percent requirement, was all in the form of in-kind services. A copy of the project budget may be seen at Appendix C of Supplement #1.

Project Evaluation

Grant regulations required an evaluation of the project by an outside agency to insure compliance with the base-line management plan of the grant. Cost of evaluation was included in the federal share of the funding.

IMPLEMENTATION

Student Recruitment

Students desiring to participate in the co-op program had to meet four requirements: (1) a demonstrated willingness to comply with project rules and procedures, (2) attainment of a GPA of 3.0 or better, (3) completion of the third quarter of academic instruction, and (4) a recommendation from the program faculty.

The first two groups of co-op students were selected from those who were already in the Telecommunications Program and who met these requirements. Subsequently, each quarter during the project period, third quarter students were given an orientation on the co-op program. Interested students were asked to complete an application package that included an agreement to abide by the rules and procedures of the project. Once the package was completed, the students were considered project participants. A copy of the application package is shown at Supplement #3.

Employer Recruitment

Advertising. A brochure (Supplement #4) and a Employer's Information Booklet (Supplement #5) were developed. Brochures were mailed to each of the 320 members of the GIA. Members expressing an interest in the project were sent an Employer's Information Booklet and were invited to participate in the project. When possible, the respondent received a follow-up visit or telephone call from the project director. In addition, the president of the GIA included flyers encouraging support of the program in his periodic newsletter to members (Supplement #4.)

Telephone Solicitation. Potential employers known to staff members of the school were telephoned to discuss the project. The contacts received appropriate follow-up by the staff member or the project director. Additionally, an extensive telephone solicitation was initiated by the project director to contact companies advertising for technicians in trade magazines and newspapers. The search included also companies listed in the telephone books of major cities in Georgia and surrounding states. Where interest was shown, the brochure and project description were mailed to the company; and, where possible, a visit was scheduled to discuss the project further.

Recruitment Trips. The project director made several trips to major cities in Georgia and northern Florida to visit telecommunications companies and explain the program to them. For those expressing real interest in hiring the students, interviews were set up at the school or at the office of the potential employer.

Follow-up. A data base file for potential employers was established and computerized. This data base was used to provide a means of insuring follow-up with all employers expressing interest in the program. Subsequent to the completion of the project, the data base file was turned over to the school to be used to assist in placement of future telecommunications graduates.

Student Placement

Student interviews were scheduled with prospective employers who had agreed to participate in the project. When possible, transportation to interviews was provided by the school; and the students were accompanied by the project director. In some instances students made their own appointments and provided their own transportation. This practice was not discouraged.

Co-op Experience

After the first quarter of co-op, the sequence in which students progressed through academic and practical experience quarters was made more flexible at the request of students and employers. Students still became eligible for the co-op project upon completing their third academic quarter in the Telecommunications Technology Program with a grade point average of 3.0 or better. However, students then had three options: (1) co-op one quarter, return to school for the fourth academic quarter, then co-op for another quarter and graduate; (2) co-op two quarters back-to-back, return to school to complete the fourth academic quarter and graduate; or (3) complete all four academic quarters, co-op for two quarters and graduate. Although a fourth option was not a part of the project design, students, having completed three academic quarters followed by two co-op quarters, could elect to take permanent employment with the participating employer without graduating from school. Students who elected to do this were still offered an opportunity to qualify for a diploma (1) by attending another vocational school in their work area at night and then passing the competencies required of the fourth quarter , or (2) by successfully completing tests administered by BHIT to demonstrate their ability to meet the competencies gained through the work experience. This choice did not become a problem during the project.

Advisory Committee

Originally, a separate advisory committee was appointed for the co-op program. After a few meetings, it was discovered that the same people who were able to attend these meetings were the same as those attending the regular Telecommunications Program meetings. Since all recommendations and proposals affected each program, it was decided to combine the two committees into one.

This combination served also as a means for dissemination in that the lead program instructor was able to present recommendations of the committee to the State Telecommunications Technology Advisory Committee and to groups at state consortiums. This then became the vehicle whereby input from the co-op companies, based on their experience with the co-op students, which was instrumental in effecting curriculum changes. (Copies of the Program Advisory Committee Meetings is at Supplement #6.)

Student Evaluations

While students were not a part of the advisory committee, they were surveyed for information that could be used to improve the project; and their input was treated with the same interest as that accorded the committee. To gain the full benefit of their experience, students were surveyed after completing at least one quarter of co-op experience.

Records

The project director maintained complete project and individual student participant files. Files established and maintained included, but were not limited to, student application and allied forms, stipend and travel vouchers and payments, student and employer evaluation and performance reports, employer and USDE correspondence files, advertising activities and materials, public relations activities and materials, and budget activities.

Reports to USDE

The project officer submitted monthly telephonic status reports and quarterly written reports to the Program Staff Officer at the U.S. Department of Education. (Copies of the quarterly reports are found at Supplement #7.)

PROJECT OUTCOMES

Student Statistics

Quantitive Measures

Thirty-two students met the requirements and were accepted into the co-op program in four different groups. This was in keeping with our goal to accept 6 to 8 students per quarter. Of the 32 who were selected the following resulted:

1. Twenty-six completed 4 academic quarters and were awarded diplomas.
2. Twenty-two were placed and completed at least one quarter of co-op at wages above the minimum.

3. Two elected to continue their education at college level.
4. Two accepted positions in unrelated fields.
5. Six were not placed in co-op or were dropped from the program for various reasons.
6. Average cost per trainee was $.
7. Average starting wage was $7.35 per hour.

Qualitative Measures

1. Average numerical evaluations of co-op students for each of the areas graded by cooperating companies is shown at Supplement #8. Narrative comments were almost universally positive on the quarterly reports.
2. Average numerical students evaluations of the program are shown at Supplement #9. Additionally, the predominant replies to questions on page 2 are indicated and are all positive.
3. Positive evaluations by industry were further substantiated during advisory council meetings and during on-site visits by the project director and lead instructor.
4. Reviews of the program by faculty members have been continual. As a result of their reviews of student and industry evaluations and verbal recommendations made during on-site visits, the curriculum was updated to meet the needs of the industry better. (See copy of Standards Revision at Supplement #10.)

Employer Participation

Of the 18 companies that executed participation agreements with the school, 14 actually employed co-op students. Many others expressed interest in and support for the program, but were unable to hire students because of the downturn in the economy just at the time that most of the students were available.

Several companies in northern Florida have indicated that they will be interested in hiring more telecommunications technicians after the first of this year.

Even though only 14 companies participated in this cooperative effort, more than 80 companies are now well aware of the Telecommunications Technology Program at BHIT. These companies are still considered valuable partners in the continuing effort by this institution to meet the needs of the industry. Constant cultivation of potential prospects will extend into the foreseeable future to ensure project continuation after the end of the project period.

Donated Equipment

Because the telecommunications field is changing so rapidly, the need to update training equipment is essential, and the equipment is expensive. In addition, it is impossible to have all of the many varieties of equipment available for hands-on training in any one institution. Therefore BHIT solicited donations of excess or unneeded equipment from participating companies for use in the training lab. Several companies responded by donating equipment with a value in excess of $35,000. This further cemented the partnership between the institution and the participating companies.

Program Evaluation

The Polaris Corporation of Greenville, South Carolina, was contracted to perform the outside program evaluation. The results of the interim and final evaluations are shown at Supplement #11.

Financial Status Report

The financial status report is shown at Supplement #12.

The Value of Seed Money

This grant has demonstrated the value of "seed money" in establishing a cooperative project with industry. Without funds provided by the grantor, it is very unlikely that students could have afforded to relocate significant distances from their home and school to participate in the practical experience phase of the project. Nor could many of the students have afforded to purchase the tools necessary to begin employment in the telecommunications industry.

LESSONS LEARNED

Project Director. The project director must be a full-time employee. In fact, a good argument could be made for two full-time administrators. Target companies are scattered over a large geographical area; contacting them all person to person is not possible with one part-time project director. As a result, follow-up was not effected with over 100 telephone contacts made with telecommunications companies. This unhappy circumstance probably resulted in missed recruiting opportunities.

Geography. The employer target area is much too large to be covered by one part-time coordinator. Industry participants in the neighboring states of Alabama and Florida could have been developed had the project been staffed sufficiently.

Budget. Several budget items were underestimated in the project design. Monies requested for the production of a video description of the project, the project director's salary, and dissemination activities were insufficient to meet project needs. These circumstances necessitated an amendment to the original budget.

Student Resistance to Move. Family relationships in small South Georgia communities are very close, and parents tend to be somewhat protective of their children. Although all students were advised that they would be required to take co-op positions away from the local area, when it came time for them to move, many declined to do so. This turn of events resulted in difficulty (in some cases impossibility) in placing some of the participating students.

PROJECT REPLICATION AND DISSEMINATION

Replication

This project demonstrates how to establish a telecommunications cooperative training program between a post-secondary educational institution and cooperating telecommunications companies. The program is designed to be replicated by any post-secondary vocational technical school.

Dissemination

USDE Requirements

USDE required that two copies of this final performance report be sent to USDE, two copies to the ERIC Clearinghouse on Adult, Career and Vocational Education and two copies to each of the six regional Curriculum Coordination Centers of the National Network for Curriculum Coordination in Vocational-Technical Education (NNCCVTE).

Video Tape

A synopsis of the project has been recorded on a 6-minute video tape (Supplement #13) and will be provided to the curriculum centers to supplement further the final performance report. The report and tape will then be available to assist other educational institutions interested in replicating this program.

BHIT Initiatives

BHIT felt it appropriate to make a project presentation to the 28th National Conference of the American Technical Education Association and the Annual Conference of the Georgia Vocational Association. In addition, the project director occupied an educational booth at the 1991 American Vocational Association Trade Show where he showed a video tape and distributed 200 copied of the project description. Copies of the project description document (Supplement #14) and/or video tape will be provided to each state technical institute in Georgia, and to any interested institution or agency that requests a copy.

BHIT Contact Person

John R. Archer
Vice President of Student Services
Ben Hill-Irwin Technical Institute
P.O. Box 1069
Fitzgerald, Georgia 31750

DISCLOSURE OF FEDERAL FUNDING

The dollar amount of federal funding for this project was $202,521; 64 percent of the total cost of the project was financed with federal funds.

SUPPLEMENT #1

U.S. DEPARTMENT OF EDUCATION
WASHINGTON, D.C. 20202

GRANTS AND CONTRACTS
SERVICE

GRANT AWARD NOTIFICATION

1 RECIPIENT NAME

BEN HILL- IRWIN TECHNICAL INST.

P. O. BOX 1069
FITZGERALD, GA 31750

2 PROJECT TITLE

TELECOMMUNICATIONS COOPERATIVE PROGRAM WITH - INDUSTRY

3 PROJECT STAFF

RECIPIENT PROJECT DIRECTOR

William Ellis	912-468-7487

EDUCATION PROGRAM STAFF

Robert L. Miller	202-732-2428

EDUCATION GRANTS STAFF

DENISE EARL	202-708-7568

4 AWARD INFORMATION

PR/AWARD NUMBER	V199A00014-90
ACTION NUMBER	04
ACTION TYPE	ADMINISTRATIVE
AWARD TYPE	DISCRETIONARY

5 AWARD PERIODS

BUDGET PERIOD	01/01/90 - 12/30/91
PROJECT PERIOD	01/01/90 - 12/30/91

6 AUTHORIZED FUNDING

BUDGET PERIOD	202,521
PROJECT PERIOD	202,521
RECIPIENT COST SHARE	25%

7 ADMINISTRATIVE INFORMATION

PAYMENT METHOD	ED PMS
ENTITY NUMBER	1-581029834-A1
REGULATIONS	EDGAR, AS APPLICABLE 34 CFR 412
ATTACHMENTS	

8 LEGISLATIVE & FISCAL DATA

AUTHORITY: Carl D. Perkins Vocational Education Act of 1984
PROGRAM TITLE: Cooperative Demonstration Program (High Tech.) CFDA 84.199A

9 TERMS AND CONDITIONS OF AWARD

THE RECIPIENT IS REQUIRED TO PAY THE PERCENTAGE OF TOTAL PROJECT COSTS SHOWN IN BLOCK 6.

THE BUDGET PERIOD FOR THIS PROJECT IS CHANGED TO THE DATES IN BLOCK 5. NO ADDITIONAL FUNDS ARE PROVIDED BY THIS ACTION.

THE PROJECT PERIOD FOR THIS PROJECT IS CHANGED TO THE DATES SHOWN IN BLOCK 5. NO ADDITIONAL FUNDS ARE PROVIDED BY THIS ACTION.

Ver. 4

Constance M. Tynes
CONSTANCE TYNES
GRANTS OFFICER

May 10, 1991
DATE

ED - GCS 007 (11/88)

PLEASE SEE OTHER SIDE FOR MORE INFORMATION

U.S. DEPARTMENT OF EDUCATION
WASHINGTON, D.C. 20202

GRANTS AND CONTRACTS
SERVICE

GRANT AWARD NOTIFICATION

1 RECIPIENT NAME

Ben Hill- Irwin Technical Inst.
P. O. Box 1069
Fitzgerald, GA 31750

2 PROJECT TITLE

TELECOMMUNICATIONS COOPERATIVE PROGRAM WITH INDUCTRY

3 PROJECT STAFF

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Daniel G. Redus	912-468-7487

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4 AWARD INFORMATION

PR/AWARD NUMBER	V199A00014-90
ACTION NUMBER	02
ACTION TYPE	ADMINISTRATIVE
AWARD TYPE	DISCRETIONARY

5 AWARD PERIODS

BUDGET PERIOD	01/01/90 - 06/30/91
PROJECT PERIOD	01/01/90 - 06/30/91

6 AUTHORIZED FUNDING

BUDGET PERIOD	202,521
PROJECT PERIOD	202,521
RECIPIENT COST SHARE	25%

7 ADMINISTRATIVE INFORMATION

PAYMENT METHOD	ED PMS
ENTITY NUMBER	1-581029834-A1
REGULATIONS	34 CFR 74,75,77,79,80,81,85 34 CFR 412
ATTACHMENTS	

8 LEGISLATIVE & FISCAL DATA

AUTHORITY: Carl D. Perkins Vocational Education Act of 1984
PROGRAM TITLE: Cooperative Demonstration Program (High Tech.) CFDA 84.199A

9 TERMS AND CONDITIONS OF AWARD

THE RECIPIENT IS REQUIRED TO PAY THE PERCENTAGE OF TOTAL PROJECT COSTS SHOWN IN BLOCK 6.

THE RECIPIENT'S PROJECT DIRECTOR IS CHANGED TO THE PERSON NAMED IN BLOCK 3.

(Signed) Constance M. Tynes
CONSTANCE TYNES
GRANTS OFFICER

FEB [illegible]
DATE

Ver. 2

ED - GCS 007 (11/88)

PLEASE SEE OTHER SIDE FOR MORE INFORMATION

U.S. DEPARTMENT OF EDUCATION
WASHINGTON, D.C. 20202

GRANTS AND CONTRACTS SERVICE

GRANT AWARD NOTIFICATION

1 RECIPIENT NAME

Ben Hill- Irwin Technical Inst.

P. O. Box 1069
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2 PROJECT TITLE

TELECOMMUNICATIONS COOPERATIVE PROGRAM WITH INDUCTRY

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John Archer	912-468-7487
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4 AWARD INFORMATION

PR/AWARD NUMBER	V199A00014
ACTION NUMBER	01
ACTION TYPE	NEW
AWARD TYPE	DISCRETIONARY

5 AWARD PERIODS

BUDGET PERIOD	01/01/90 - 06/30/91
PROJECT PERIOD	01/01/90 - 06/30/91

6 AUTHORIZED FUNDING

THIS ACTION	202,521
BUDGET PERIOD	202,521
PROJECT PERIOD	202,521
RECIPIENT COST SHARE	25%

7 ADMINISTRATIVE INFORMATION

PAYMENT METHOD	ED PMS
ENTITY NUMBER	1-581029834-A1
REGULATIONS	34 CFR 74,75,77,79,80,81,85 34 CFR 412
ATTACHMENTS	ABS

8 LEGISLATIVE & FISCAL DATA

AUTHORITY: Carl D. Perkins Vocational Education Act of 1984
PROGRAM TITLE: Cooperative Demonstration Program (High Technology CFDA 84.199A

APPROPRIATION	FY	CAN	OBJECT CLASS	AMOUNT
91 9/00400	90	E002715	4115	202,521

9 TERMS AND CONDITIONS OF AWARD

THE FOLLOWING ITEMS ARE INCORPORATED IN THE GRANT AGREEMENT:
1) THE RECIPIENT'S APPLICATION (BLOCK 2),
2) THE APPLICABLE EDUCATION DEPARTMENT REGULATIONS (BLOCK 7).

OTHER INFORMATION AFFECTING THIS ACTION IS PROVIDED IN THE ATTACHMENTS SHOWN IN BLOCK 7.

THE RECIPIENT IS REQUIRED TO PAY THE PERCENTAGE OF TOTAL PROJECT COSTS SHOWN IN BLOCK 6.

CONSTANCE M. TYNES

[illegible] 29 [illegible]

CONSTANCE TYNES
GRANTS OFFICER

DATE

Ver. 1

ED - GCS 007 (11/88)

PLEASE SEE OTHER SIDE FOR MORE INFORMATION

A COOPERATIVE DEMONSTRATION OF HIGH TECHNOLOGY TRAINING IN TELECOMMUNICATIONS

Ben Hill-Irwin Technical Institute (BHIT) and the Georgia Interconnect Association serving south Georgia have designed a program to offer students entering a high technology training program an outstanding opportunity to become licensed as a Low Voltage Technician and subsequently Telecommunications Technician. This proposed cooperative training with industry will provide workers competent in telecommunication installation, equipment, maintenance and trouble-shooting problems of operation, including cable splicing, fiber optics, and switching mechanisms. The reorganization of the telephone companies and the services that they typically provide have created a industry shortage of manpower needed to install and service a wide variety of systems serving the public.

This training program will have a duration of 18 months with two quarters of a variety of practical experience being provided under the supervision of telephone company supervisors. The General Telephone Company, along with other interconnect companies, have assisted in determining the need as well as the skill training program that will assure the graduates of this program will be skilled and competent in this facet of the telecommunications field.

This training program is designed to provide students with practical experiences in a variety of locations and equipment necessary to meet the public need for service for new kinds of equipment and systems that new technology brings. Often this will require special support and arrangements, since these practical opportunities for building skill and competence are away from the student's residence. Evaluation is conducted on each individual's performance and overall program impact by BHIT staff, the project advisory committee and respective industries.

The project will have an evaluation component that will address both quantitative and qualitative measures during, and at the completion of, each quarter of training activity. BHIT, the cooperative industries and the trainees will all participate in the evaluation of the program. Revisions to the training program will be made by the Project Advisory Committee based upon evaluation studies and other information gained from experience.

Dissemination of the project design and accomplishments is planned so that it may be replicated by other interested industries or technical institutes.

TELECOMMUNICATION TRAINING

BEN HILL-IRWIN TECHNICAL INSTITUTE

TABLE OF CONTENTS

I. Background Information

II. Need for Project.

III. Plan of Operation

IV. Quality of Key Personnel

V. Budget Justification.

VI. Evaluation

VII. Adequacy of Resources

VIII. Private Sector Involvement

IX. Employment Opportunities

X. Dissemination

XI. Appendices

- A. Demographic Data

- B. Staff Resume

- C. Budget Summary

- D. Supporting Documents
    - 1. Assurances
    - 2. Endorsements

I. BACKGROUND

Through strong local leadership Ben Hill-Irwin Technical Institute was established in the 1960's in south rural Georgia to provide quality vocational education to residents of its service delivery area. Ben Hill-Irwin Tech is one of a network of post-secondary vocational technical schools in Georgia and is located near Fitzgerald, Georgia and serves a six county rural area with a population of over 80,000. Three of the counties served, Telfair, Wilcox, and Turner, are designated by the Governor of Georgia as being "Less Developed". Criteria for this selection are those counties ranking in the lower 25% are: (1) the highest unemployment for the most recent three years; (2) lowest per capita income for the most recent three years; (3) highest percentage of persons in poverty; and (4) average weekly manufacturing wage.

Over 3,000 full-time graduates, and over 25,000 area residents seeking to upgrade their skills through short-term vocational training, have availed themselves of the opportunity offered by BHIT's programs. BHIT graduates have had extraordinary success in being placed into employment with over 85% of the graduates being employed within fifty miles from the facility.

Students training at BHIT generally commute to the facility and may travel up to fifty miles to participate in training offered. This obstacle to some students is abated by a computerized carpool and ridesharing program coordinated by BHIT. BHIT provides over twenty different training programs and operates both day and night training programs. The facility offers adult remedial education to those who wish to improve their reading and writing skills and has established a cooperative Joint Degree Program with Abraham Baldwin Agricultural College.

Ben Hill-Irwin Tech is proud of its distinguished achievements and contributions to the growth and welfare of the communities it serves. The leadership, administrators and faculty, are committed to continue to be on the leading edge of offering skilled workers in areas needed by employers in the surrounding community.

II. NEED FOR THE PROJECT

This cooperative demonstration program jointly developed by staff at BHIT and telephone companies will train skill workers in the telecommunications field. General Telephone Company and Georgia Interconnect Association have entered into a training program with BHIT to provide a high tech training program to students in BHIT's Telecommunication Training. These telephone companies have noted that frequently applicants that apply to them for employment have the personal attributes that make good employees, but lack the skill training to qualify for vacant or new positions. Secondly, the reorganization and changing responsibilities of these companies, and the services they provide, have created a manpower shortage of skilled technicians who can install, trouble-shoot, maintain and repair telephone communication systems including switching mechanisms and the use and installation of fiber optic cable.

Attached in the appendix is a copy of a survey conducted by the National Telecommunications Education Council in 1986. The results of this survey indicate the Southeast region of the United States has the greatest manpower shortage for trained technicians in the field of telecommunications.

New technicians must be competent to provide service to a wide variety of organizations, businesses and residences. To include: public buildings, manufacturers, hospitals, office buildings, apartments, and local business to single family residences.

This project will then meet two basic community needs: (1) offering students training in a highly technical area where employment is almost assured for graduates; and (2) provide industry with an opportunity to provide cooperatively skill training experiences that will provide a higher skilled graduate and a smoother transition to employment. Because the industrial manpower shortage and the need for skilled technicians is substantial, employment of graduates from BHIT's cooperative program is almost assured. On a broader scale, the project will serve as a model for future cooperative efforts with other communications companies.

III. PLAN OF OPERATION

The overall supervision and fiscal agent duties of the program will be the responsibility of the Institute's President, Edgar B. Greene. He will devote approximately 5% of his time to the project. The Project Director, John Archer, will devote 10% of his time to the project. The Vice President for Administrative Services, Mrs. Peggy Tucker, will supervise the management of the resources of the project including the administration of grant funds. An Administrative Assistant will contribute 50% of her time to financial support services for the project.

The Project Advisory Committee will assist in reviewing the project progress and will make recommendations for changes or amendments to the projects design or curriculum. Supervision of faculty assigned to the program will be within the institute's organization and lines of authority. A curriculum of the course of study is attached for review in an appendix. Most students will be able to complete the coursework required within eighteen months; however, some additional training for special placement of some students may be necessary when transitioning to an especially sophisticated job placement.

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This jointly developed project includes training to provide both basic knowledge and practical application skills to advance the trainees experience to industries entry level of competence. The training curriculum leads to meeting the licensing requirements for a Low Voltage Technician. (A curriculum outline is included in the Appendix). The training program has been designed by staff at BHIT, the Telecommunications Advisory Council, and the cooperative telephone companies. The course will require 18 months for completion, which includes two quarters of practical experience.

The program will include working knowledge of a variety of different switching equipment, hand tools, test equipment, and various telecommunication equipment associated with todays complex systems that interface with a variety of other sophisticated systems.

The telephone companies will provide a variety of supervised experiences for installation, maintenance and repair of telecommunication systems. This practical experience will include: trouble-shooting, installations, utilizing test equipment, line tracing, cable splicing, maintaining and upgrading switching circuitry and panels, identification of circuits, and reporting and record documentation.

Starting wages will be approximately $6-8 per hour with wages advancing substantially after six months to a year of experience. Opportunities for employment far exceed the projected graduates of this program for the foreseeable future. Ben Hill-Irwin Tech projects approximately thirty graduates per year with six to eight trainees per quarter receive practicum experience.

Recruiting for the Telecommunications Training Program will be accomplished cooperatively by BHIT and the cooperative industries. Radio, local newspapers, Institute announcements and contact with other public education programs and public services will be utilized. The industry will refer potential candidates for the program from applicants for employment and others who come to their attention who seek this skill training. Trainees will be provided, with the support of grant funds, the personal tools and safety glasses expected of persons to be employed in these positions. Secondly, grant funds will provide the necessary per diem and transportation costs for trainees to work on-site away from their residences. Also, grant support will provide for the necessary administrative support, training materials and supplies.

The telephone companies will provide the necessary guidance in practical experience, supervision and evaluation during practicum quarters. The telephone companies to include the interconnect companies will also provide the necessary institutional equipment needed by the Telecommunications Training Program to maintain current industrial standards.

A Project Advisory Committee will meet at least quarterly to assess the programs progress and to make recommendations for enhancing program effectiveness. The Committee will consist of representation from the institute and cooperative industry. Minutes of each meeting will be recorded and will be available for public review.

BHIT will administratively review program progress every six months to assure that its development and quality of training are meeting its standards of performance. Placement of graduates will be the joint responsibility of BHIT and the trainee. The Project Advisory Committee and the cooperative telephone companies will assist in this effort.

The demand for technicians with the skills offered in this program has increased and is unlikely to abate in the near future. Experiences and licensed technicians in the telecommunication field have good futures with the prospect of above average wages and opportunities for advancement or self-employment.

IV. QUALITY OF KEY PERSONNEL

Overall project administration will be the responsibility of Edgar B. Greene, President, Ben Hill-Irwin Technical Institute. Mrs. Peggy Tucker, Vice President for Administrative Services, will supervise the management of the project resources including grant funds. Mr. John Archer, Coordinator of Special Operations, will coordinate the project. A half-time employee will be required to serve as Administrative Assistant to the project, because of the nature, variety and complexity of the individual student training experience, including off-site activities. This additional administrative support will be included in the estimated costs applied to this project proposal to support the added workload of secretarial and accounting support.

The Instructor of the Telecommunications Training Program has outstanding qualifications for the development of this program. he has over twenty years experience in the telecommunications field. His assignments have included plant engineer, circuit design engineer, long lines engineer, national accounts service manager, and voice / data systems consultant. A full resume is in the Appendix of this proposal.

V. BUDGET JUSTIFICATION

This cooperative demonstration with industry requires special support to many of our students who come from low income families and often have no transportation of their own. Project funds will provide the necessary personal hand tools, supplies, and test equipment to meet job requirements, per diem costs and transportation to practicum (work sites) locations when away from their home communities. In addition, personal safety equipment will be provided when required off the facility grounds where practical experience is completed. Grant support will be needed to provide travel and per diem to staff of BHIT to maintain ties with cooperative industries, and to periodically meet with the granting agency on the projects progress. Funding will also be required to implement a dissemination plan described with this proposal. A budget summary sheet is attached in the Appendix.

VI. EVALUATION OF THE PROJECT

Project evaluation will focus on quanitative and qualitative measures in determining overall project impact, as well as individual student progress and performance. Individual student performance during the academic experience will be measured by academic standards progress used by the school. Performance during the practicum phase will be measured by the practicum supervisor utilizing the Student Evaluation Form at Appendix ___.

The project advisory committee will bear the responsibility of overall project evaluation and will utilize the criteria listed below to formulate the evaluation. Based on the review of evaluation criteria, the committee will make recommendations for program changes and improvements to the project director. The committees' recommendations will be included in the minutes of each committee meetings, and will be made a part of the project records.

Quantitative Measures (Per report period) Qtr/Yr

Number of new trainees entering program.
Number of trainees graduated.
Number and percent of trainees that become employed at above minimum wage.
Number of graduates employed in telecommunications.
Number of graduates retained in employment after six (6) months.
Average cost per trainee.
Average weekly starting wage.
Percent of utilization of training program.

Qualitative Measures Qtr/Yr

Supervisor evaluation of individual performance.
Graduates evaluation of training program.
Industry evaluation of program.
Faculty review of program.

VII. ADEQUACY OF RESOURCES

Ben Hill-Irwin Tech is a modern plant that has been expanded and well maintained since its establishment in the early 1960's. Each training program was established only after extensive community survey to determine manpower current and projected needs for the service delivery and adjacent areas. Industrial advisory committees meet at least quarterly to assure the appropriateness of the training experience and provide needed feed back to the Institute and its faculty.

The facility is accessible to the handicapped; approximately 20 percent of the trainees are black; and about 50 percent of the trainees are women. Hiring practices comply with state and federal laws concerning non-discrimination.

VIII. PRIVATE SECTOR INVOLVEMENT

BHIT has a long established record of cooperating with industries within and adjacent to its service delivery area. However, this project will require a much closer working relationship. This will be done through industrial representation on the project Advisory Council, industrial supervision of trainees during practicum, and industrial evaluation and training reports.

Industry will be providing a variety of work sites that will be used by trainees. On-site equipment will be provided as needed to accomplish the tasks assigned. This project evolved from, and is strongly supported by, the Program Advisory Council.

IX. EMPLOYMENT OPPORTUNITIES

Ben Hill Irwin Technical Institute has achieved an outstanding placement record of its completing trainees. Over 86% of all graduate trainees have been employed within a 50 mile radius of the service delivery area. The attached letters of endorsement further support industries desire for skilled telecommunication technicians, especially in the Southeast Region of the United States.

X. DISSEMINATION

The Telecommunications Training Project has a plan of dissemination of its progress and accomplishments. Both the cooperative telephone industries and BHIT will be actively addressing the project activities. This will be done in a variety of ways. Local media will be used to share with the communities in the service delivery area information about the program. A program summary will be submitted to appropriate telecommunication periodicals. The projects progress will be shared with the state technical institute network and presentations will be made at workshops and conferences on a regional and national basis as appropriate opportunities occur.

The project is replicable in almost every part of the United States with cooperative local and long line telephone companies. According to the survey conducted by the National Telecommunications Education Council, the Pacific Coast Region of the United States has next greatest need for telecommunication technicians.

BHIT will be using a planned approach of dissemination of the projects progress and accomplishments through a variety of means: (1) BHIT's Project Advisory Committee will be involved and informed (2) Press releases to the media will be used to promote the program to the public and surrounding industry (3) the State technical institute network of training facilities will be informed of the projects progress and accomplishments through training conferences and memorandum (4) appropriate national and training institutions will be provided with information of the project and how they may replicate the project; and finally guides will be developed to provide a step-by-step approach to establishing a similar program. This effort will be supplemented to video tape or other appropriate media that will be supportive to this goal.

APPENDIX A

DEMOGRAPHIC DATA

Georgia Economic Profile

Fitzgerald
Ben Hill County

Located 178 miles southeast of Atlanta.

Population

	City	County	GA (millions)	U.S. (millions)
1950	8,130	14,879	3.4	151.3
1960	8,781	13,633	3.9	179.3
1970	8,015	13,171	4.6	203.2
1980	10,187	16,000	5.5	226.5
1990	n/a	18,544	6.5	243.0
2000	n/a	21,409	7.4	259.8

Per Capita Income

	County	GA	U.S.
1970	$2,574	$3,300	$3,893
1980	6,082	8,041	9,494
1984	8,842	11,793	13,116
1985	9,311	12,639	13,910
1986	9,822	13,451	14,639

Health

1 hospital with 80 beds, 24-hour emergency room, 3 operating rooms, orthopedic surgeon, general surgeon, internist. 5 dentists. 2 chiropractors. 2 nursing homes (245 beds). Public health department.

Education

COMMUNITY SCHOOLS. 3 city public schools with 134 teachers, 2,404 students, and 161 high school graduates in 1988. 2 private schools with 57 students in 1989. 1 county public school with 67 teachers and 1,083 students in 1988.

HIGHER EDUCATION. Vo-Tech: Ben Hill-Irwin at Fitzgerald (local) has 747 students. Jr. College: Abraham Baldwin Agricultural College at Tifton (23 miles) with 1,723 students. 4-yr. College: Valdosta State College at Valdosta (56 miles) with 7,056 students. Brewton-Parker College offers credit courses at Fitzgerald 4 nights a week for a 2-year degree.

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Utilities

ELECTRICITY. A part of Georgia's modern integrated electrical transmission system, Fitzgerald has excellent ability to supply industrial demands. Compared to 47% for the U.S., coal accounts for 84% of fuel used by the state's power generating plants. This assures long-term continuity. Local utiility commission purchases power from MEAG and serves Fitzgerald through two 22,000 KVA substations supplied from a 115,000 volt transmission network. Alternate suppliers: Georgia Power & Irwin EMC.

WATER. Plant capacity: 8.9 million gal/day. Consumption: 3.0 million gal/day average, 3.5 million gal/day maximum. Storage capacity: 1.0 million gal. elevated, 1.5 million gal. ground.Pumping capacity: 6,200 gal/min.

SEWAGE. Plant capacity: 2,300,000 gallons/day. Plant load: 1,100,000 gallons/day. Secondary treatment plant. Present excess capacity : 1.2 million gal.

Taxes

PROPERTY. Property taxes are determined by tax rates and assessment ratios which vary by location. The only realistic way to compare property taxes for different locations is to use "effective tax rates" (tax rate multiplied by assessment ratio). Effective tax rates combine city, county, school, and state tax rates into one convenient figure — the annual tax for each $1000 of property at its fair market value. This rate applies to all property: land, buildings, machinery, equipment, and inventory

Property Located	1988 Effective Rate
Within City	$12.85
Outside City	$10.90

INVENTORY. Ben Hill County exempts 100% on all classes of certain business inventory from property taxation.

SALES. City and county have 1% local sales tax in addition to the 4% state sales tax.

Transportation

MOTOR FREIGHT CARRIERS. 5 interstate. 21 inter/intrastate.

RAIL. CSX rail service at Fitzgerald (local). CSX piggyback service at Cordele (48 miles).

WATER. Nearest navigable river: Flint (9 foot channel depth) with a public barge dock at Bainbridge (100 miles). Nearest seaport: Brunswick (118 miles) with a maintained channel depth of 30 feet.

AIR. Nearest commercial air service: Albany (64 miles). Airlines: Atlantic Southeast, Eastern Metro Express. Nearest public airport at Fitzgerald (local). 5,000 foot bituminous runway. Services and navigational aids: aircraft tiedown, airframe & power plant repair, hangar, lighted runway, NDB, jet fuel.

Commercial Services

COMMUNICATIONS. Local Newspapers: 1 weekly. Dailies delivered from Albany, Atlanta, Macon, and Tifton. 7 TV channels received (26-channel cable available). Local radio stations: 2AM, 1 FM.

FINANCIAL FACILITIES. 2 banks and 2 branch banks with $21 billion in assets. 2 S&L branches with $2.3 billion in assets.

INDUSTRIAL SUPPORT SERVICES. Fabricating, finishing, forming, machining, tool & die shop, electric motor repair, welding, aluminum casting, and drilling.

PUBLIC ACCOMMODATIONS. 22 restaurants (largest capacity 300). 120 motel rooms.

Municipal Services

FIRE PROTECTION. 21 full-time personnel. Protection outside city limits by county volunteer fire department. Fire insurance classification 6 in city.

POLICE PROTECTION. 21 full-time city and 6 full-time county personnel. Protection outside city limits.

GARBAGE. Service provided by city and county.

ZONING. City and county have zoning ordinance and subdivision design standards. Joint city/county planning commission.

Recreation

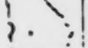
FACILITIES. 12 tennis courts. 7 parks. 1 golf course. 1 swimming pool. 1 country club. Crystal Lake (10 miles) has swimming, rental sailboats and paddleboats, camping, amusement rides. Jeff Davis Memorial (10 miles) has camping.

STATE PARK. Georgia Veterans State Park (57 miles) with swimming, fishing, camping, water skiing, motor boating, and 18-hole public golf course under construction.

PUBLIC LAKE/RIVER. Ocmulgee River (10 miles) has swimming, fishing, camping, water skiing, motor boating.

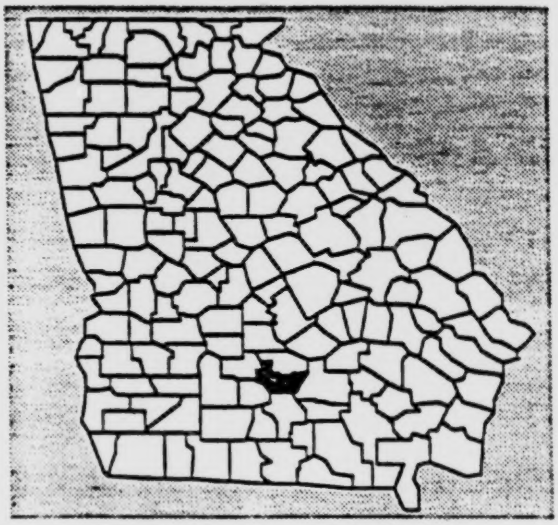
YEARLY EVENTS. Jaycees Rattlesnake Roundup (spring). Spring Dogwood Celebration (April). Fall Festival (October). Industry Festival/July 4th Festival.

SCENIC ATTRACTIONS. Blue and Gray Museum (Old Depot Building). Civil War artifacts.



Georgia Economic Profile

Ocilla
Irwin County



Located 199 miles southeast of Atlanta.

Population

	City	County	GA (millions)	U.S. (millions)
1950	2,697	11,973	3.4	151.3
1960	3,217	9,211	3.9	179.3
1970	3,185	8,036	4.6	203.2
1980	3,436	8,988	5.5	226.5
1990	n/a	9,659	6.5	243.0
2000	n/a	10,455	7.4	259.8

Per Capita Income

	County	GA	U.S.
1970	$2,522	$3,300	$3,893
1980	4,994	8,041	9,494
1984	10,194	11,793	13,116
1985	10,081	12,639	13,910
1986	10,196	13,451	14,639

Health

1 hospital (34 beds).
1 MD.
2 dentists.
2 nursing homes (113 beds).

Education

COMMUNITY SCHOOLS. 3 county public schools with 99 teachers, 1,479 students, and 89 high school graduates in 1988.

HIGHER EDUCATION. Vo-Tech: Ben Hill-Irwin at Fitzgerald (9 miles) has 747 students. Jr. College: Abraham Baldwin Agricultural College at Tifton (23 miles) with 1,723 students. 4-yr. College: Valdosta State College at Valdosta (56 miles) with 7,056 students.

Commercial Services

COMMUNICATIONS. Local Newspapers: 1 weekly. Dailies delivered: Albany Herald, Atlanta Journal, Macon Telegraph & News. 2 TV channels received (cable available). 1 cable station at Fitzgerald (9 miles). Local radio stations: 2.

FINANCIAL FACILITIES. 2 banks with $56 million in assets. 1 S&L branch with $182.5 million in assets.

INDUSTRIAL SUPPORT SERVICES. Fabricating, casting, finishing, forming, machining, electric motor repair at Fitzgerald (9 miles).

PUBLIC ACCOMMODATIONS. 7 restaurants (largest capacity 100). 1 motel (25 rooms). 5 meeting facilities (largest seats 500).

Municipal Services

FIRE PROTECTION. 12 volunteer personnel. Fire insurance classification 8.

POLICE PROTECTION. 10 full-time personnel. Protection outside city limits.

GARBAGE. Service provided by city.

PROFESSIONAL ENGINEER. Full-time engineer.

ZONING. City has zoning ordinance and subdivision design standards.

Recreation

FACILITIES. 6 tennis courts. 1 golf course. 2 swimming pools. 1 country club. 1 softball field. 1 saddle club arena. 1 city park with playground equipment.

YEARLY EVENTS. Georgia Sweet Potato Festival & Parade held every October since 1960. Night on the Town (December).

STATE PARK. Jeff Davis Memorial State Park (10 miles) with camping, historical museum, picnic areas.

PUBLIC LAKE/RIVER. Ocmulgee River (10 miles) has swimming, fishing, camping, water skiing, motor boating. Alapaha River (12 miles). Crystal Lake in Irwinville.

SCENIC ATTRACTIONS. Spring-fed Crystal Lake, a very large crystal-clear, fresh-water lake with picnic tables and grills scattered under mossy trees and several miles of natural white sand beaches. Swimmers, campers, and fishermen are welcome.

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Utilities

ELECTRICITY. A part of Georgia's modern integrated electrical transmission system, Ocilla has excellent ability to supply industrial demands. Compared to 47% for the U.S., coal accounts for 84% of fuel used by the state's power generating plants. This assures long-term continuity.

NATURAL GAS. Available in industrial quantities on both a firm and an interruptible basis.

WATER. Plant capacity: 10,376,000 gal/day. Consumption: 800,000 gal/day average, 1,000,000 gal/day maximum. Elevated storage capacity: 310,000 gal. Source: 4 deep wells. Pumping capacity: 3,000 gal/min.

SEWAGE. Plant capacity: 1,125,000 gallons/day. Plant load: 800,000 gallons/day. Secondary treatment plant.

Taxes

PROPERTY. Property taxes are determined by tax rates and assessment ratios which vary by location. The only realistic way to compare property taxes for different locations is to use "effective tax rates" (tax rate multiplied by assessment ratio). Effective tax rates combine city, county, school, and state tax rates into one convenient figure — the annual tax for each $1000 of property at its fair market value. This rate applies to all property: land, buildings, machinery, equipment, and inventory

Property Located	1988 Effective Rate
Within City	$12.07
Outside City	$7.49

SALES. City and county have 2% local sales tax in addition to the 4% state sales tax.

Transportation

MOTOR FREIGHT CARRIERS. 4 interstate. 18 inter/intrastate.

RAIL. CSX rail service at Ocilla (local). CSX piggyback service at Cordele (47 miles).

WATER. Nearest navigable river: Flint (9 foot channel depth) with a public barge dock at Bainbridge (100 miles). Nearest seaport: Brunswick (118 miles) with a maintained channel depth of 30 feet.

AIR. Nearest commercial air service: Moultrie-Thomasville (46 miles). Airlines: Eastern Metro Express.Nearest public airport at Fitzgerald (9 miles). 5,000 foot bituminous runway. Services and navigational aids: aircraft tiedown, airframe & power plant repair, hangar, lighted runway, NDB.

1987 INDUSTRY MIX
IRWIN COUNTY AREA
RANKED BY WAGE

INDUSTRY	Emp	% Area	Weekly Wage
Transportation/Public Utilities	1,105	3	425
Finance/Insurance/Real Estate	1,183	3	330
Public Administration	2,843	7	303
Manufacturing	14,395	38	294
Services	8,919	23	285
Wholesale Trade	1,710	4	282
Construction	1,395	4	265
Mining	4		206
Retail Trade	6,819	18	190
TOTAL	38,373	100%	$277

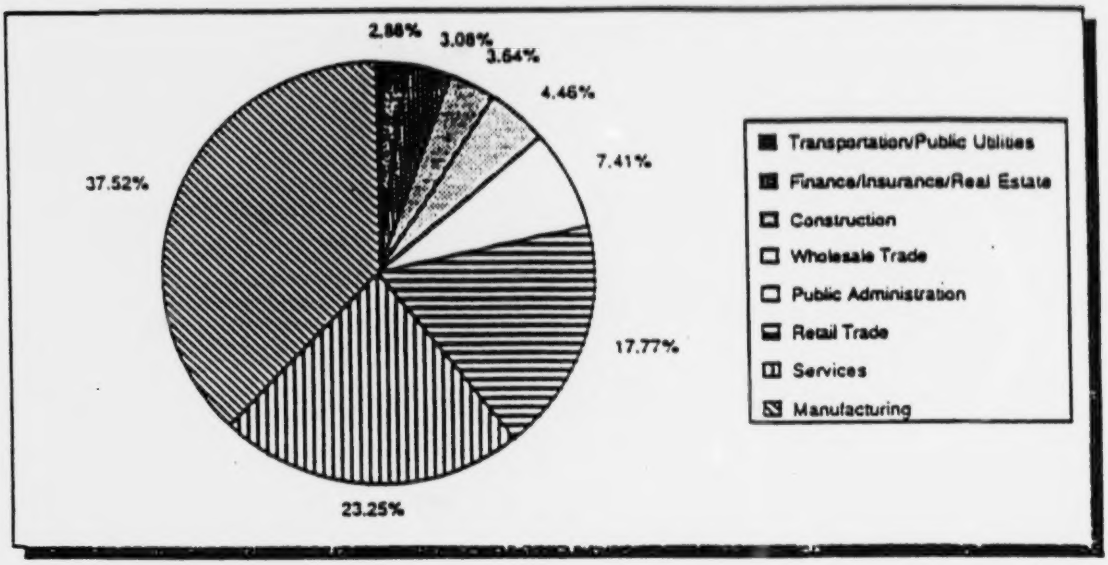
MANUFACTURING	Firms	Emp	% Area	Weekly Wage
Electric Machinery	3	365	3	748
Nonelectric Machinery	14	290	2	341
Fabricated Metals	13	652	5	325
Textiles	12	3,885	27	319
Transportation Equipment	9	1,599	11	316
Lumber	18	1,602	11	302
Chemicals	11	153	1	296
Food	31	1,403	10	261
Printing	12	151	1	239
Stone/Clay/Glass/Concrete	12	177	1	227
Furniture	3	182	1	203
Apparel	14	2,844	20	172
Paper	1	282	2	-
Primary Metals	2	816	6	-
Instruments	1	2		-
TOTAL	156	14,403	100%	$294

COUNTIES: Ben Hill, Berrien, Coffee, Irwin, Tift, Turner.

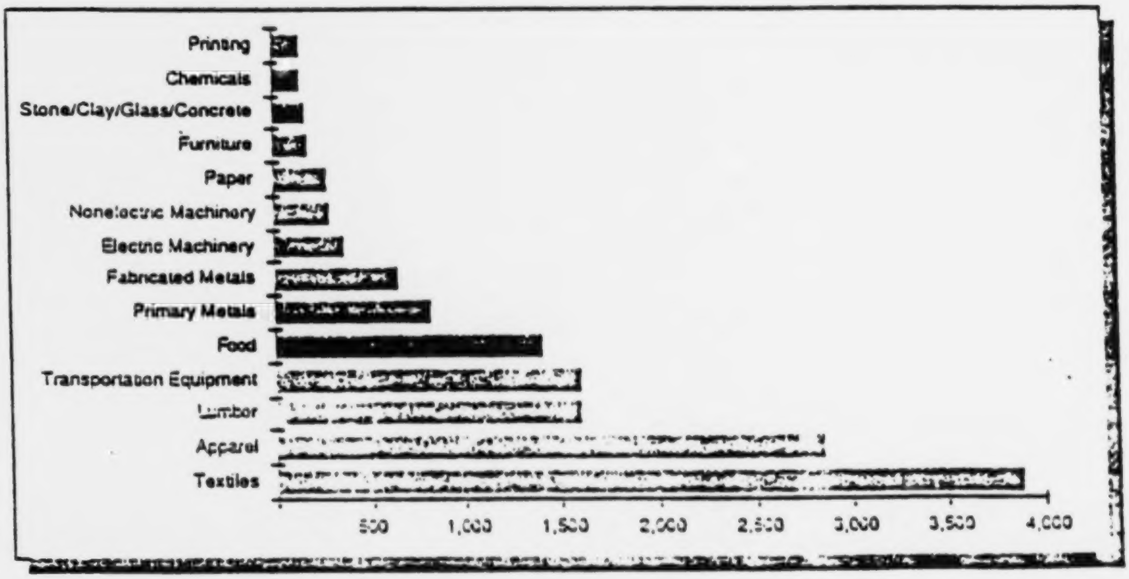
* Hyphens indicate data is unavailable or does not meet disclosure criteria.

IRWIN COUNTY AREA

INDUSTRY MIX BY EMPLOYMENT (1987)



MANUFACTURING MIX BY EMPLOYMENT (1987)



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APPENDIX B

CURRICULUM OUTLINE

TELECOMMUNICATIONS TECHNOLOGY
PROGRAM OUTLINE

Course		Class Hours	Lab Hours	Total Clock Hours	Credit Hours
First Quarter					
MAT 103	Algebraic Concepts	52	0	52	5
E TEL 101	DC Circuits	40	20	60	5
MAT 104	Geometry and Trigonometry	50	0	50	5
E TEL 102	AC Circuits	40	20	60	5
E TEL 104	Solid State Devices	40	20	60	5
PSY 100	Interpersonal Relationships and Professsional Development	30	0	30	5
Second Quarter					
T TEL 107	Cable Installation	20	40	60	3
TEL 108	System Installation	30	42	72	4
TEL 109	Troubleshooting and Repair	20	40	60	4
E TEL 103	Digital Devices	40	20	60	5
TEL 106	Telephony Skills	30	30	60	4
XXX XXX	Occupational or Occupationally Related Elective				5
Third Quarter					
ENG 101	English	50	0	50	3
TEL 105	Computer Fundamentals	20	52	72	4
TEL 110	Basic Telecommunications Concepts	30	20	50	4
TEL 111	Data Communications	50	20	70	6
TEL 112	Digital Telephony	50	20	70	6
Fourth Quarter					
TEL 114	Microprocessors Interfacing	40	20	60	5
TEL 113	System Installation and Testing	30	52	82	4
TEL 115	Fundamental Analog Communications	20	20	40	3
TEL 116	Fiber Optics	40	20	60	5
TEL 117	Traffic Analysis	30	0	30	3
TEL 118	Network Design Fundamentals	40	0	40	4

Total Clock Hours: 1,248
Total Credit Hours: 102

TELECOMMUNICATIONS TECHNOLOGY

Course Number		
	1st Quarter	
MAT 102	Mathematics	24
TEL 101	D.C. Fundamentals	126
TEL 102	A.C. Fundamentals	90
TEL 104	Solid State Devices	72
		312
	2nd Quarter	
ELE 201	Shop Safety	6
ELE 202	Residential Wiring	90
ELE 203	Industrial Wiring	100
ELE 204	Designing Electrical Systems (NEC)	90
ELE 205	Practical Application	26
		312
	3rd Quarter	
TEL 106	Telephony Skills	78
TEL 107	Cable Installation	78
TEL 108	Telephone Systems Installation	104
PSY 100	Interpersonal Relations and Professional Development	52
		312
	4th Quarter	
MAT 121	Technical Mathematics	52
TEL 103	Digital Devices	52
TEL 105	Computer Fundamentals	52
TEL 109	Troubleshooting and Repair	156
		312
	5th Quarter	
ENG 101	Composition and Rhetoric	52
TEL 110	Telecommunications Concepts	52
TEL 111	Data Communications	52
TEL 112	Digital Telephony	104
TEL 115	Analog Communications	52
		312
	6th Quarter	
TEL 113	System Installation and Testing	78
TEL 114	Microprocessing	52
TEL 116	Fiber Optics	78
TEL 117	Traffic Analysis	52
TEL 118	Network Design Fundamentals	52
		312

Rcd 4/23/91
AVL

BEN HILL - IRWIN TECHNICAL INSTITUTE

P.O. BOX 1069 • FITZGERALD, GEORGIA 31750 • PHONE 912/468-7487

REQUEST APPROVED
No additional funds authorized
Constance M. Tynes
~~Contracting~~/Grants Officer 4/3/91

January 25, 1991

Ms. Constance Tynes
Grants Management Office
400 Maryland Avenue, S.W.
ROB-3, Room 3652
Washington, D.C. 20202-4835

RE: Project V199A00014

Dear Ms. Tynes:

This letter is a result of my telephone conversation with you this date. We are requesting a minor project budget adjustment as described below.

We are asking that we be allowed to move $9,500 from the student travel line item to other lines for the following reasons. Money for project evaluation was not included in the original project budget; therefore, we want to increase the "Other Expenses" line by $2000. The cost of making and producing a professional quality video for project dissemination (Page X of application) was grossly underestimated; we had planned on $2800 - the going rate is $7,500. We want to increase the "Supplies" line item by $4,065 to cover this cost. Since this is a cooperative demonstration project, we feel that emphasis should be placed on project dissemination. Finally, we have underestimated project coordinator time and wish to increase the "salaries" line item by $3,435. The amount presently budgeted for the coordinator will not permit the amount of work to be done to coordinate the video development and dissemination activities required.

Due to five less than planned (25 vs 30) student participants in the project, we will have $9,500 more than needed in the student travel budget line item. We would like to transfer this amount to fund the underestimations described above.

The amount requested for project evaluation will cover total cost, including travel, for an outside team of evaluators. The amount stated for video production includes total expenses for that project.

A revised project budget is enclosed. Thank you for your consideration. Should you have questions regarding this request, please call me at (912) 468-7487.

Sincerely,

John R. Archer
Director of Institutional
Advancement

Peggy H. Tucker

Peggy H. Tucker
Vice President Administrative
Services

Encl

U.S. DEPARTMENT OF EDUCATION
WASHINGTON, D.C. 20202

GRANTS AND CONTRACTS
SERVICE

GRANT AWARD NOTIFICATION

1 RECIPIENT NAME

BEN HILL- IRWIN TECHNICAL INST.

P. O. BOX 1069
FITZGERALD, GA 31750

2 PROJECT TITLE

TELECOMMUNICATIONS COOPERATIVE PROGRAM WITH - INDUSTRY

3 PROJECT STAFF

RECIPIENT PROJECT DIRECTOR	
William Ellis	912-468-7487
EDUCATION PROGRAM STAFF	
Robert L. Miller	202-732-2428
EDUCATION GRANTS STAFF	
DENISE EARL	202-708-7568

4 AWARD INFORMATION

PR/AWARD NUMBER	V199A00014-90
ACTION NUMBER	03
ACTION TYPE	ADMINISTRATIVE
AWARD TYPE	DISCRETIONARY

5 AWARD PERIODS

BUDGET PERIOD	01/01/90 - 06/30/91
PROJECT PERIOD	01/01/90 - 06/30/91

6 AUTHORIZED FUNDING

BUDGET PERIOD	202,521
PROJECT PERIOD	202,521
RECIPIENT COST SHARE	25%

7 ADMINISTRATIVE INFORMATION

PAYMENT METHOD	ED PMS
ENTITY NUMBER	1-581029834-A1
REGULATIONS	EDGAR, AS APPLICABLE 34 CFR 412
ATTACHMENTS	

8 LEGISLATIVE & FISCAL DATA

AUTHORITY: Carl D. Perkins Vocational Education Act of 1984
PROGRAM TITLE: Cooperative Demonstration Program (High Tech.) CFDA 84.199A

9 TERMS AND CONDITIONS OF AWARD

THE RECIPIENT IS REQUIRED TO PAY THE PERCENTAGE OF TOTAL PROJECT COSTS SHOWN IN BLOCK 6.

THE RECIPIENT'S PROJECT DIRECTOR IS CHANGED TO THE PERSON NAMED IN BLOCK 3.

THE DEPARTMENT OF EDUCATION GRANTS STAFF MEMBER FOR THIS PROJECT IS CHANGED TO THE PERSON NAMED IN BLOCK 3.

(Signed) Constance M. Tynes

CONSTANCE TYNES
GRANTS OFFICER

DATE

Ver. 3

ED - GCS 007 (11/88)

PLEASE SEE OTHER SIDE FOR MORE INFORMATION

REVISED BUDGET
TELECOMMUNICATIONS

	FEDERAL FUNDS		IN-KIND MATCH	
Salaries				
Project Director				
$3,340 x 18 mos. x 25%	$18,465			
Administrative Assistant				
$1,000 x 18 mos. x 25%	$ 4,500	$22,965		
Full time instructors (2)				
$2,749 x 8 mos.			$21,992	
$2,749 x 103% x 10 mos.			$28,320	
$2,384 x 8 mos.			$19,072	
$2,384 x 103% x 10 mos.			$24,560	
				$93,944
Fringe Benefits				
Workers Comp. Ins. $19,530 x .45%	$ 89			
Workers Comp. Ins. $93,944 x .45%			$ 423	
FICA Ins./Medi-Care $19,530 x 1.45%	$ 284			
FICA Ins./Medi-Care $93,944 x 1.45%			$ 1,363	
Teachers Retirement $93,944 x 13.63%			$12,805	
Health Ins. ($93,944 x 6.3%) + ($25.40 x 2 x 18 mos.)	________	$ 373	$ 6,833	$21,424
Travel				
Administrative to Washington, D.C.	$ 2,500			
for dissemination of project	$ 4,500			
Institution to coordinate project	$ 1,500	$ 8,500		
Supplies				
Media materials for dissemination	$ 6,865			
Teaching Supplies	$ 700	$ 7,565		
Other costs				
Student tool kits $600 x 30 students	$18,000			
Student travel $75 x 10 students x 12 weeks x 6 quarters	$44,500			
Project Evaluation	$ 2,000	$64,500		
Student Stipend				
52 days x 8 hrs. x $3.35 x 10 students x 6 quarters		$83,616		
Total Direct Charges		$187,519		
Indirect Charges				
$187,519 x 8%		15,002		________
Total Project Cost		$202,521		$115,368

Note:
Minimum required in-kind match: $202,521 x 25% = $50,630

BEN HILL - IRWIN TECHNICAL INSTITUTE

P.O. BOX 1069 • FITZGERALD, GEORGIA 31750 • PHONE 912/468-7487

February 9, 1990

Ms. Barbara Saunders
Grants Specialist
400 Maryland Avenue, S.W.
ROB-3, Room 3652
Washington, D.C. 20202-4835

RE: V199A00014

Dear Ms. Saunders:

Pursuant to your telephone conversation with Mrs. Peggy Tucker of February 7, 1990, I am forwarding the revised budget information and application cover sheet for our grant.

The revisions reflect necessary changes to Form 424A and Form 424 (Revised). We have also re-worked the budget break-out to reflect the in-kind match figures in a vertical column to the right of the federal funds column. This should meet with your preference for format.

We pulled Mrs. Tucker's salary out of the in-kind match figures because her salary is reflected in the indirect cost figures.

I believe these revisions satisfy the issues that you and Mrs. tucker discussed.

We look forward to your approval of the budget revision and Program Manager change soon.

Sincerely,

John R. Archer
Program Manager

lr

Enclosure

VI99A00014

REVISED BUDGET
TELECOMMUNICATIONS

	FEDERAL FUNDS		IN-KIND MATCH	
Salaries				
Project Director				
$3,340 X 18 mos. X 25%	$ 15,030			
Administrative Assistant				
$1,000 X 18 mos. X 25%	$ 4,500	19,530		
Full time instructors (2)				
$2,749 X 8 mos.			$ 21,992	
$2,749 X 103% X 10 mos.			$ 28,320	
$2,384 X 8 mos.			$ 19,072	
$2,384 X 103% X 10 mos.			$ 24,560	93,944
Fringe Benefits				
Workers Comp. Ins. $19,530 X .45%	$ 89			
Workers Comp. Ins. $93,944 X .45%			$ 423	
FICA Insurance/Medi-Care $19,530 X 1.45%	$ 284			
FICA Insurance/Medi-Care $93,944 X 1.45%			$ 1,363	
Teachers Retirement $93,944 X 13.63%			$ 12,805	
Health Ins. ($93,944 X 6.3%) + ($25.40 X 2 X 18 mos.)		373	$ 6,833	21,424
Travel				
Administrative to Washington, D.C.	$ 2,500			
for dissemination of project	$ 4,500			
Institution to coordinate project	$ 1,500	8,500		
Supplies				
Media materials for dissemination	$ 2,800			
Teaching Supplies	$ 700	3,500		
Other Costs				
Student tool kits $600 X 30 students	$ 18,000			
Student travel $75 X 10 students X 12 wks X 6 quarters	$ 54,000	72,000		
Student Stipend				
52 days X 8 hrs. X $3.35 X 10 students X 6 quarters		83,616		
Total Direct Charges		187,519		
Indirect Charges				
187,519 X 8%		15,002		
Total Project Cost		202,521		115,368

Note:

Minimum required In-Kind match: $202,521 X 25% = $50,630

Revised 2-9-90

APPENDIX A

OMB Approval No. 0348-0043

APPLICATION FOR FEDERAL ASSISTANCE

2. DATE SUBMITTED 11/02/89

Applicant Identifier

3. DATE RECEIVED BY STATE

State Application Identifier

4. DATE RECEIVED BY FEDERAL AGENCY

Federal Identifier

1. TYPE OF SUBMISSION:

Application
☐ Construction
☑ Non-Construction

Preapplication
☐ Construction
☐ Non-Construction

5. APPLICANT INFORMATION

Legal Name: Ben Hill-Irwin Technical Institute

Organizational Unit: Institutional

Address (give city, county, state, and zip code):
P.O. Box 1069
Fitzgerald, Georgia 31750
Counties of Ben Hill and Irwin

Name and telephone number of the person to be contacted on matters involving this application (give area code)
John Ross Archer
(912) 468-7487

6. EMPLOYER IDENTIFICATION NUMBER (EIN): 58 – 1029834

7. TYPE OF APPLICANT: (enter appropriate letter in box) H

A. State
B. County
C. Municipal
D. Township
E. Interstate
F. Intermunicipal
G. Special District
H. Independent School Dist.
I. State Controlled Institution of Higher Learning
J. Private University
K. Indian Tribe
L. Individual
M. Profit Organization
N. Other (Specify): ______

8. TYPE OF APPLICATION:

☒ New ☐ Continuation ☐ Revision

If Revision, enter appropriate letter(s) in box(es): ☐ ☐

A. Increase Award B. Decrease Award C. Increase Duration
D. Decrease Duration Other (specify): ______

9. NAME OF FEDERAL AGENCY: US Department of Education

10. CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER: 84-199

TITLE: Cooperative Demonstration Program (High Tech)

11. DESCRIPTIVE TITLE OF APPLICANT'S PROJECT: Telecommunications Cooperative Program with Industry

12. AREAS AFFECTED BY PROJECT (cities, counties, states, etc.): South Georgia

13. PROPOSED PROJECT:

Start Date	Ending Date
01/01/90	06/30/91

14. CONGRESSIONAL DISTRICTS OF:

a. Applicant 8th

b. Project High Tech Cooperative Program

15. ESTIMATED FUNDING:

a Federal	$ 202,521	.00
b Applicant	$ 115,368	.00
c State	$	.00
d Local	$	.00
e Other	$	.00
f Program Income	$	.00
g TOTAL	$ 317,889	.00

16. IS APPLICATION SUBJECT TO REVIEW BY STATE EXECUTIVE ORDER 12372 PROCESS?

a. YES THIS PREAPPLICATION/APPLICATION WAS MADE AVAILABLE TO THE STATE EXECUTIVE ORDER 12372 PROCESS FOR REVIEW ON

DATE July 18, 1989

b. NO. ☐ PROGRAM IS NOT COVERED BY E.O. 12372

☐ OR PROGRAM HAS NOT BEEN SELECTED BY STATE FOR REVIEW

17. IS THE APPLICANT DELINQUENT ON ANY FEDERAL DEBT?

☒ Yes If "Yes," attach an explanation. ☐ No

18. TO THE BEST OF MY KNOWLEDGE AND BELIEF, ALL DATA IN THIS APPLICATION/PREAPPLICATION ARE TRUE AND CORRECT. THE DOCUMENT HAS BEEN DULY AUTHORIZED BY THE GOVERNING BODY OF THE APPLICANT AND THE APPLICANT WILL COMPLY WITH THE ATTACHED ASSURANCES IF THE ASSISTANCE IS AWARDED

a. Typed Name of Authorized Representative: Edgar B. Greene, Ed.D.

b. Title: President

c. Telephone number: (912) 468-7487

d. Signature of Authorized Representative

e. Date Signed: 2-9-90

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OMB Approval No. 0348-0044

BUDGET INFORMATION — Non-Construction Programs

SECTION A - BUDGET SUMMARY

Grant Program Function or Activity (a)	Catalog of Federal Domestic Assistance Number (b)	Estimated Unobligated Funds		New or Revised Budget		
		Federal (c)	Non-Federal (d)	Federal (e)	Non Federal (f)	Total (g)
1. Coop Demo	84. 199A	$	$	$ 202,521	$ 115,368	$ 317,889
2.						
3.						
4.						
5. TOTALS		$	$	$	$	$

SECTION B - BUDGET CATEGORIES

6. Object Class Categories	GRANT PROGRAM, FUNCTION OR ACTIVITY				Total (5)
	(1)	(2)	(3)	(4)	
a. Personnel	$ 19,530	$	$	$	$
b. Fringe Benefits	373				
c. Travel	8,500				
d. Equipment					
e. Supplies	3,500				
f. Contractual					
g. Construction					
h. Other	155,616				
i. Total Direct Charges (sum of 6a - 6h)	187,519				
j. Indirect Charges	15,002				
k. TOTALS (sum of 6i and 6j)	$ 202,521	$	$	$	$

7. Program Income	$	$	$	$	$

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APPENDIX C

BUDGET SUMMARY AND SUPPORT DOCUMENTS

BUDGET SUMMARY AND JUSTIFICATION

Student Trainee Requirements. Personal tools required for employment as a low voltage technician and to work as a telecommunications technician will be provided to each practicum trainee.

Per diem and travel costs for practicum costs are estimated for each student for the two (2) practium quarters. Training locations will be throughout southwest Georgia and western Alabama. Consequently, trainees will require resources to cover these expenses in the form of travel and per diem during practicum training while away from home and school.

An average of costs compiled from industry for per diem and travel was used as the basis for budget compilation. This average is for one person and his/her expenses for one five day work week with travel to and from work daily and transportation to practicum locations at the beginning and end of each work week. These expenses will be incurred only during the practicum phase of training when students are away from their respective residences.

Travel and P~~er Diem~~ Requirements for Staff. Institutional staff travel will be required for meetings with the interconnect companies and to supervise trainees in practicum activities. In addition to travel required to evaluate students and for liaison with interconnect companies, travel to Washington, D.C. at least twice during the year for confefences with grant proponents, etc. Costs for the Washington trips was estimated based on school staff travel experience to Washington.

Training Materials. Training materials will include items such as various size wiring material, cable and connectors. This material will be similar to that encountered during the student's practicum experience with industry, and is needed to provide initial skill development of the trainee.

Dissemination Expenses. Dissemination activities of the project, to include travel and media expenses, have been estimated. As a minimum, video and slide presentations, and written summaries of project outcomes, evaluations and description will be anticipated and prepared for. Travel is open ended in that it is not at this time possible to determine precise locations of dissemination activities or the number of activities in which the institution will become involved.

Indirect Costs. Indirect charges and costs were computed at 8% of project cost.

Administrative Salaries. Administrative salaries were computed for the institutional president and project director at five and fifteen (15) percent respectively in that each will devote at least that much of his time in ministering to the project. At least one half-time administrative assistant will be required to carry the administrative burden generated by the project, and to assist the president with his fiscal agent duties with the project.

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Part II—Budget Information

Instructions for the SF–424A

General Instructions. This form is designed so that application can be made for funds from any one of the grant programs included in this consolidated application package. For the Bilingual Vocational Instructor Training Program (CFDA No. 84.099) and the Cooperative Demonstration Program (High Technology) (CFDA No. 84.199A), Sections A, B, and C should include budget estimates for the entire project period. For the Vocational Education Indian Program (CFDA No. 84.101) and the Demonstration Centers for the Retraining of Dislocated Workers Program (CFDA No. 84.193), Sections A, B and C should provide the budget for the first year of the project and Section E should present the need for Federal assistance in subsequent years.

Note: Section D need not be completed to apply for these programs.

All applications should contain a breakdown by the object class categories shown in Section B, Lines 6a through 6j.

Section A. Budget Summary. Line 1, Columns (a) through (g)—Enter on Line 1 the catalog program title in Column (a) and the catalog program number in Column (b). Leave Columns (c) and (d) blank. Enter in Columns (e), (f), and (g) the appropriate amounts of funds needed to support the project for either the entire project period or the first year of the project, as appropriate.

Section B. Budget Categories. Lines 6a through 6i—Fill in the total requirements for Federal funds by object class categories for either the entire project period or the first year of the project, as appropriate.

Line 6a—Personnel: Show salaries and wages to be paid to personnel employed in the project. Fees and expenses for consultants must be included in Line 6f.

Line 6b—Fringe Benefits: Include contributions for Social Security, employee insurance, pension plans, etc. Leave blank if fringe benefits to personnel are treated as part of the indirect cost rate.

Line 6c—Travel: Indicate the amount requested for travel of employees.

Line 6d—Equipment: Indicate the cost of nonexpendable personal property which has a useful life of more than two years and an acquisition cost of $300 or more per unit.

Line 6e—Supplies: Include the cost of consumable supplies to be used in this project. These should be items which cost less than $300 per unit with a useful life of less than two years.

Line 6f—Contractual: Show the amount to be used for: (a) Procurement contracts (except those which belong on other lines such as supplies and equipment listed above); and (b) subgrants or payments for consultants and secondary recipient organizations such as affiliates, cooperating institutions, delegate agencies, etc.

Line 6g—Construction: Construction expenses may be allowable under the Vocational Education Indian Program (CFDA No. 84.101).

Line 6h—Other: Indicate all direct costs not clearly covered by lines 6a through 6g. If there are trainee costs or stipends, enter the total cost of these expenses. The maximum allowance for stipends is $3.35 per contact hour.

Line 6i—Total Direct Charges: Show total of Lines 6a through 6h.

Line 6j—Show the amount of indirect cost to be charged to the project.

Note: Except for grants to Federally recognized Indian tribes, the indirect cost rate for training projects cannot exceed eight percent of total direct charges.

Line 6k—Enter the total of the amounts on Lines 6i and 6j.

Section C. Non-Federal Resources. Line 8—Enter any amounts of non-Federal resources that will be used on the grant. If any in-kind contributions are included, provide a brief explanation on a separate sheet.

Column (a)—Enter the catalog program title.

Column (b)—Enter the contribution to be made by the applicant.

Column (c)—Enter the amount of the State's cash and in-kind contribution if the applicant is not a State or State agency.

(Applicants which are a State or State agencies should leave this column blank.

Column (d)—Enter the amount of cash and in-kind contributions to be made from all other sources.

Column (e)—Enter the totals of Columns (b), (c), and (d).

Note: Grant recipients under the Cooperative Demonstration Program (High Technology) are required to provide not less than [illegible] percent of the total cost of the demonstration project conducted under this program. In other words, the amount shown on Line 8, Column (e), must be at least [illegible] percent of the amount shown in Section A, Line 1, Column (g).

Section E—Budget Estimates of Federal Funds Needed for Balance of the Project

Note: This section applies only to the Vocational Education Indian Program and the Demonstration Centers for the Retraining of Dislocated Workers Program.

Line 16—Enter in Column (a) the catalog program title. In Columns (b) and (c), as appropriate, enter the amounts of Federal funds which will be needed to complete the project over the succeeding funding period(s) (usually in years).

Section F. Other Budget Information. Prepare a detailed Budget Narrative that explains, justifies, and/or clarifies the budget figures shown in Sections A, B, C, and E.

Part III—Application Narrative

Instructions for Part III—Application Narrative

All applicants are urged to submit Application Narratives which are concise and clearly written. Before preparing the Application Narrative, applicants should read and become familiar with the law and the regulations covering the program to which they are applying.

Applicants should use the selection criteria for a program as an outline for preparing their Application Narratives, addressing the selection criteria *in the order the criteria are listed.* Applicants are encouraged to provide a table of contents and to number the pages of the Application Narrative. The Application Narrative should not exceed 25 double-spaced typed pages (on one side only). Supporting documentation (e.g., letters of support, footnotes, resumés, etc.) may be submitted as appendices to the Application Narrative.

FORMAT

Estimated Public Reporting Burden. Under terms of the Paperwork Reduction Act of 1980, as amended, and the regulations implementing that Act, the Department of Education invites comment on the public reporting burden in these collections of information. Public reporting burden for these collections of information is estimated to average 20 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of these collections of information, including suggestions for reducing this burden, to the U.S. Department of Education, Information Management and Compliance Division, Washington, DC 20202–[illegible]; and to the Paperwork Reduction Project, OMB (applicant must insert OMB control number [illegible] below), Office of Management and Budget, Washington, DC [illegible].

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V199AC0014

REVISED BUDGET
TELECOMMUNICATIONS

Salaries		
Project Director		
$3,340 X 18 mos. X 25%	=$15,030	
Administrative Assistant		
$1,000 X 18 mos. X 25%	=$ 4,500	19,530
Fringe Benefits		
WC Insurance - $19,530 X .45%	=$ 89	
FICA Insurance-Medi-Care - $19,530 X 1.45%	=$ 284	373
Travel		
Administrative to Washington, D.C.	=$2,500	
for dissemination of project	= 4,500	
Institution to coordinate project- Super Com etc -	= 1,500	8,500
Supplies		
Media materials for dissemination mailing	=$2,800	
Teaching Supplies	= 700	3,500
Other Costs		
Student tool kits $600 x 30 students	=$18,000	
Student travel $75 x 30 students x 12 wks x 26 qtrs	= 54,000	
Student stipend 52 days x 8 hrs x $3.35 x 10 students x 6 qtrs	= 83,616	155,616
	Total Direct Charges	187,519 my $'s
Indirect Charges 189,992 x 8% = - adm of school.		15,002
	Total Project(Federal).	202,521
Non-Federal Resources		116,690
	Total Project Cost	319,211

Note:

Minimum required In-Kind match: $202,521 x 25% = $50,630

ppendix A

Part I: Application for Federal Assistance (Standard Form 424 (Rev. 4-88)) and Instructions

OMB Approval No. 0348-0043

APPLICATION FOR FEDERAL ASSISTANCE

2. DATE SUBMITTED: 7-18-89
Applicant Identifier:

1. TYPE OF SUBMISSION:
Application: ☐ Construction ☒ Non-Construction
Preapplication: ☐ Construction ☐ Non-Construction

3. DATE RECEIVED BY STATE:
State Application Identifier:

4. DATE RECEIVED BY FEDERAL AGENCY:
Federal Identifier:

5. APPLICANT INFORMATION

Legal Name: Ben Hill-Irwin Technical Institute

Organizational Unit: Institutional

Address (give city, county, state, and zip code):
P.O. Box 1069
Fitzgerald, GA 31750
Counties of Ben Hill and Irwin

Name and telephone number of the person to be contacted on matters involving this application (give area code):
John Ross Archer
(912) 468-7487

6. EMPLOYER IDENTIFICATION NUMBER (EIN): 58-1029834

7. TYPE OF APPLICANT: (enter appropriate letter in box) [illegible]
A. State
B. County
C. Municipal
D. Township
E. Interstate
F. Intermunicipal
G. Special District
H. Independent School Dist.
I. State Controlled Institution of Higher Learning
J. Private University
K. Indian Tribe
L. Individual
M. Profit Organization
N. Other (Specify): ____________

8. TYPE OF APPLICATION: ☒ New ☐ Continuation ☐ Revision

If Revision, enter appropriate letter(s) in box(es): ☐ ☐
A. Increase Award B. Decrease Award C. Increase Duration
D. Decrease Duration Other (specify):

9. NAME OF FEDERAL AGENCY: U.S. Department of Education

10. CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER: 84.199
TITLE: Cooperative Demonstration Program (High Tech)

11. DESCRIPTIVE TITLE OF APPLICANT'S PROJECT: Telecommunications Cooperative Program with industry

12. AREAS AFFECTED BY PROJECT (cities, counties, states, etc.): South Georgia

13. PROPOSED PROJECT: Start Date 10-1-89 Ending Date 3-31-91

14. CONGRESSIONAL DISTRICTS OF: a. Applicant 8th b. Project High Tech Cooperative Program

15. ESTIMATED FUNDING:

a. Federal	$ 205,191	.00
b. Applicant	$ 116,690	.00
c. State	$	.00
d. Local	$	.00
e. Other	$	.00
f. Program Income	$	.00
g. TOTAL	$ 321,331	.00

16. IS APPLICATION SUBJECT TO REVIEW BY STATE EXECUTIVE ORDER 12372 PROCESS?
a. YES. THIS PREAPPLICATION/APPLICATION WAS MADE AVAILABLE TO THE STATE EXECUTIVE ORDER 12372 PROCESS FOR REVIEW ON:
DATE July 18, 1989
b. NO. ☐ PROGRAM IS NOT COVERED BY E.O. 12372
☐ OR PROGRAM HAS NOT BEEN SELECTED BY STATE FOR REVIEW

17. IS THE APPLICANT DELINQUENT ON ANY FEDERAL DEBT?
☐ Yes If "Yes," attach an explanation. ☐ No

18. TO THE BEST OF MY KNOWLEDGE AND BELIEF, ALL DATA IN THIS APPLICATION/PREAPPLICATION ARE TRUE AND CORRECT, THE DOCUMENT HAS BEEN DULY AUTHORIZED BY THE GOVERNING BODY OF THE APPLICANT AND THE APPLICANT WILL COMPLY WITH THE ATTACHED ASSURANCES IF THE ASSISTANCE IS AWARDED

a. Typed Name of Authorized Representative: Edgar B. Greene, Ed.D.
b. Title: President
c. Telephone number: (912)468-[illegible]
d. Signature of Authorized Representative:
e. Date Signed:

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Appendix A

Part I: Application for Federal Assistance (Standard Form 424 (Rev. 4-88)) and Instructions

OMB Approval No. 0348-0043

APPLICATION FOR FEDERAL ASSISTANCE

2. DATE SUBMITTED 11/02/89

Applicant Identifier

1. TYPE OF SUBMISSION:
Application
☐ Construction
☒ Non-Construction
Preapplication
☐ Construction
☐ Non-Construction

3. DATE RECEIVED BY STATE

State Application Identifier

4. DATE RECEIVED BY FEDERAL AGENCY

Federal Identifier

5. APPLICANT INFORMATION

Legal Name: Ben Hill-Irwin Technical Institute

Organizational Unit: Institutional

Address (give city, county, state, and zip code):
P.O. Box 1069
Fitzgerald, GA 31750
Counties of Ben Hill and Irwin

Name and telephone number of the person to be contacted on matters involving this application (give area code):
John Ross Archer
(912) 468-7487

6. EMPLOYER IDENTIFICATION NUMBER (EIN): 5 8 – 1 0 2 9 8 3 4

7. TYPE OF APPLICANT: (enter appropriate letter in box) [illegible]

A. State	H. Independent School Dist.
B. County	I. State Controlled Institution of Higher Learning
C. Municipal	J. Private University
D. Township	K. Indian Tribe
E. Interstate	L. Individual
F. Intermunicipal	M. Profit Organization
G. Special District	N. Other (Specify):

8. TYPE OF APPLICATION:
☒ New ☐ Continuation ☐ Revision

If Revision, enter appropriate letter(s) in box(es): ☐ ☐
A. Increase Award B. Decrease Award C. Increase Duration
D. Decrease Duration Other (specify):

9. NAME OF FEDERAL AGENCY:
U.S. Department of Education

10. CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER: 3 4 . 1 9 9

TITLE: Cooperative Demonstration Program (High Tech)

11. DESCRIPTIVE TITLE OF APPLICANT'S PROJECT:
Telecommunications Cooperative Program with industry

12. AREAS AFFECTED BY PROJECT (cities, counties, states, etc.):
South Georgia

13. PROPOSED PROJECT
Start Date: 01/01/90
Ending Date: 06/30/91

14. CONGRESSIONAL DISTRICTS OF:
a. Applicant: 8th
b. Project: High Tech Cooperative Program

15. ESTIMATED FUNDING:

a. Federal	$ 202,521 .00
b. Applicant	$ 116,690 .00
c. State	$ .00
d. Local	$ .00
e. Other	$ .00
f. Program Income	$ .00
g. TOTAL	$ 319,211 .00

16. IS APPLICATION SUBJECT TO REVIEW BY STATE EXECUTIVE ORDER 12372 PROCESS?

a. YES. THIS PREAPPLICATION/APPLICATION WAS MADE AVAILABLE TO THE STATE EXECUTIVE ORDER 12372 PROCESS FOR REVIEW ON:
DATE July 18, 1989

b. NO. ☐ PROGRAM IS NOT COVERED BY E.O. 12372
☐ OR PROGRAM HAS NOT BEEN SELECTED BY STATE FOR REVIEW

17. IS THE APPLICANT DELINQUENT ON ANY FEDERAL DEBT?
☒ Yes If "Yes," attach an explanation. ☐ No

18. TO THE BEST OF MY KNOWLEDGE AND BELIEF, ALL DATA IN THIS APPLICATION/PREAPPLICATION ARE TRUE AND CORRECT, THE DOCUMENT HAS BEEN DULY AUTHORIZED BY THE GOVERNING BODY OF THE APPLICANT AND THE APPLICANT WILL COMPLY WITH THE ATTACHED ASSURANCES IF THE ASSISTANCE IS AWARDED

a. Typed Name of Authorized Representative: For Edgar B. Greene, Ed.D.
b. Title: President
c. Telephone number: (912) 468-7487
d. Signature of Authorized Representative: Peggy H. Tucker, Vice President
e. Date Signed: 11-10-89

Previous Editions Not Usable

Standard Form 424 (Rev. 4-88)
Prescribed by OMB Circular A-102

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OMB Approval No. 0348-0044

BUDGET INFORMATION — Non-Construction Programs

SECTION A - BUDGET SUMMARY

Grant Program Function or Activity (a)	Catalog of Federal Domestic Assistance Number (b)	Estimated Unobligated Funds		New or Revised Budget		
		Federal (c)	Non-Federal (d)	Federal (e)	Non-Federal (f)	Total (g)
1. Cooperative Demonstration	84. 199A	$	$	$ 202,521	$ 116,690	$ 319,211
2.						
3.						
4.						
5. TOTALS		$	$	$	$	$

SECTION B - BUDGET CATEGORIES

6. Object Class Categories	GRANT PROGRAM, FUNCTION OR ACTIVITY				Total
	(1)	(2)	(3)	(4)	(5)
a. Personnel	$ 18,724	$	$	$	$
b. Fringe Benefits	1,179				
c. Travel	8,500				
d. Equipment					
e. Supplies	3,500				
f. Contractual					
g. Construction					
h. Other	155,616				
i. Total Direct Charges (sum of 6a - 6h)	187,519				
j. Indirect Charges	15,002				
k. TOTALS (sum of 6i and 6j)	$ 202,521	$	$	$	$
7. Program Income	$	$	$	$	$

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Standard Form 424A (4-88)
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BUDGET
TELECOMMUNICATION

Salaries			
Fiscal Agent			
90FY - $5,111 x 9 mo. x 5%	= $2,300		
91FY - 5,111 x 2 mo. x 5%	= 511		
5,111 x 103% x 7 mo. x 5%	= 1,843	~~$4,854~~	
Project Director			
90FY - $3,478 x 9 mo. x 15%	= $4,695		
91FY - 3,478 x 2 mo. x 15%	= 1,043		
3,478 x 103% x 7 mo. x 15%	3,761	$9,499	
Administrative Assistance			
90FY - $1,000 x 9 mo. x 50%	= $4,500		
91FY - 1,050 x 9 mo. x 50%	= 4,725	$9,225	$23,378
Fringe Benefits			
Health Insurance - $107.80 x 18 mo. x 50%	= $970 admin asst.		
WC Insurance - $23,378 x .40%	= 94 all staff		
FICA Insurance-Medi-Care $9,225 x 1.45%	= 134 admin		1,198
Travel			
Administrative to Washington, D.C.	= $2,500		
for dissimenation of project	= 4,500		
Institution to coordinate project	= 1,500		8,500
Supplies			
Media materials for dissemination	= ~~$800~~ 2500 Try to increase this figure to 2000K		
Teaching supplies	= ~~500~~ [illegible]		~~1,300~~
Other Cost			
Student tool kits $600 x 30 students	= $18,000		
Student travel $75 x 10 students x 12 wks x 6 qtrs.	= 54,000		
Student stipend 52 days x 8 hrs x $3.35 x 10 students x 6 qtrs	= 83,616		155,616
		Total Direct Charges	189,992
Indirect charges			
~~189~~,992 x 8% =			~~15,199~~
		Total Project Federal Share	205,191
Non-Federal Resources			116,690
		Total Project Cost	321,881

Note:

Minimum required In-Kind match

$205,191 x 33.3333% = $68,397

50

In-Kind Match
Telecommunications

Salaries

Two full time instructors for 18 months

90FY - $2,749 x 9 mo.	= $24,741		
91FY - 2,749 x 2 mo.	= 5,498		
91FY - 2,749 x 103% x 7 mo.	= 19,820	$50,059	
90FY - $2,384 x 9 mo.	= 21,456		
91FY - 2,384 x 2 mo.	= 4,768		
91FY - 2,384 x 103% x 7 mo.	= 17,188	43,412	$ 93,471

Salaries part time

Vice President Admintistrative Services

90FY - $3,087 x 9 mo. x 5%	= $1,389		
91FY - 3,087 x 2 mo. x 5%	= 309		
91FY - 3,087 x 103% x 7 mo. x 5%	= 1,113	2,811	$96,282

Fringe Benefits

	T. Retirement - $96,282 x 13.63%	= $13,123	
*	H. Insurance - ($93,471 x 6.3%) + ($25.40 x 2 x 18 mo.)	= 6,803 Inst.	
	H. Insurance - $107.80 x 18 mo. x 5%	= 97 admin.	
	WC Insurance - $96,282 x .40%	= 385	20,408
	Total Institutional In-Kind		116,690

Non-Federal Resources
In-Kind Contributions

Institution's Contributions:

Salaries Two Instructors (full time) = $93,471

Salary Vice President Administrative Services (5%) = 2,811

Fringe Benefits = 20,408

Total In-Kind Contributions 116,690

TECHNICIAN'S TOOL LIST

The technician's tool list following is considered to be the basic collection of tools required by industry, and was standard issue for Bell Telephone prior to divestiture. Today, it is necessary for technicians to own and maintain their own tool inventory. Prices on tool kits may vary depending on brand name selected and unannounced price increases.

- Tool Pouch and Belt
- Flash light
- Cable Cutters
- Crimp Tool
- Screw Driver Set
- Safety Glasses
- Test Set
- Tone Generator
- Diagonal Cutters
- Long-nose Pliers
- Punch-down Tool
- T-25 Staple Gun
- T-75 Staple Gun
- Tape Measure
- Volt Ohm Meter
- Yankee Drill

Total Cost (approximate): $600

APPENDIX D

ADVISORY COMMITTEE

BEN HILL - IRWIN TECHNICAL INSTITUTE

P.O. BOX 1069 FITZGERALD, GEORGIA 31750 PHONE 912/468-7487

TELECOMMUNICATIONS ADVISORY COMMITTEE MEMBERS AND EX-OFFICIO MEMBERS 1989-1990

Mr. Skip Dawkins
GTE South
P.O. Box 969
Fitzgerald, GA 31750
423-9321

Mr. Donald During
GTE South
P.O. Box 969
Fitzgerald, GA 31750
423-9388

Mr. Joe Rogers
Radio Shack
Colony Drive
Fitzgerald, GA 31750
423-3540

Mr. Wayne McCrimmon
Rt. 2, Box 1960
Fitzgerald, GA 31750
831-4815

Mr. Richard Gourley
Plant Telephone
U.S. Highway 82 West
Tifton, GA 31794
382-4227

Mr. Donald Griffin, Instructor
Mr. Glenn Bishop, Instructor
Ben Hill-Irwin Tech
P.O. Box 1069
Fitzgerald, GA 31750
468-7487

APPENDIX E

STAFF RESUMES

EDGAR B. GREENE

Ben Hill-Irwin Technical Institute
President
(1984 - Present)

WORK EXPERIENCE

1975 - 1983
Ben Hill-Irwin Technical Institute
Position: Assistant Director

1970 - 1975
Ben Hill-Irwin Technical Institute
Position: Evening Coordinator

1967 - 1970
Valdosta Tech
Position: Communications Skills Instructor

1966 - 1967
Brooks County High
Position: English Teacher/Coach

CERTIFICATIONS

Georgia: T-4 (English), T-5 and T-6 (Trade and Industrial Education, VE5 and VE6 (Vocational Administration), DD-7 (Vocational Education)

EDUCATION

1980 - 1983
Nova University
Degree: Doctorate

1976 - 1978
University of Georgia
Degree: Specialist in Education

1970 - 1972
University of Georgia
Degree: Masters in Education

1962 - 1966
Valdosta State College
Degree: B.S. in Education

1959 - 1962
Lowndes High
diploma

PROFESSIONAL ORGANIZATIONS

G.V.A., A.V.A., American Technical Education Association, National Council of Resource Developers, Georgia Industrial Developers Association, Business Council of Georgia, Fitzgerald Chamber of Commerce

JOHN ROSS ARCHER

P.O. Box 1318, Fitzgerald, GA 31750

EDUCATION: Fitzgerald High School Graduate, 1953. North Georgia College B.S. Degree 1961. Creighton University, M.S. Degree 1971. Valdosta State College, Additional Graduate Work 1982-1983.

MILITARY: United States Army, 1962 to 1982. Retired as a Colonel in 1982.

EXPERIENCE: Ten years leadership experience commanding and managing units of 210 to 6,000 personnel. Three years teaching and counseling experience at Creighton University, Omaha, Nebraska. Three years experience as military assistant to Secretaries of the Army Howard H. (Bo) Callaway and Martin H. Hoffmann. Responsible for legislative liaison between Secretary of The Army's Office and The Congress of the United States, as well as all major policy and management decisions originating from the Office of Secretary of The Army. Three years experience of ensuring troop readiness and oversite of the nuclear surity program of all NATO forces in Europe; managed an inspection team of 92 senior officers and a budget of $137,000,000. Since 1982, served as Student Personnel Services Coordinator at Ben Hill-Irwin Technical Institute; responsible for admissions, counseling, financial aid programs, veteran's affairs, and student records.

BUSINESS INTERESTS: Founder and President of Dynamic Life Skills Corporation.

CIVIC ACTIVITIES: Rotary Club of Fitzgerald, Georgia, Past President and Director; Chamber of Commerce Fitzgerald, Georgia, Past Director; Dorminy Medical Center, Fitzgerald, Georgia, Chairman of the Board; Ben Hill County Chapter of the American Heart Association, Education Chairman.

MEMBERSHIPS: American Vocational Association, Georgia Vocational Association, Georgia Association of Financial Aid Administrators, Georgia School Counselors Association.

CHURCH: Past President, United Methodist Men; Teacher, Young Adult Sunday School Class; Member, Administrative Board; Past Chairman, Finance Committee; Chairman, Building Fund Committee.

LICENSURE: Professional Counselor, State of Georgia, License #000108.

PERSONAL: Age 52; Height 5'10"; Weight 180; Married with three children. Hobbies: Fishing, Literature, Classical Music, Youth Programs.

RECENT ACCOMPLISHMENTS: Formulated and implemented a five-year strategic plan to guide the future of a major medical center in South Georgia, including a $4.2 million construction and renovation project. Chaired the Friends of the Grand Fund Raising Project, an effort to raise $500,000 for the renovation of a local theater for civic use.

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GLENN M. BISHOP
RT.1 BOX 1355
CHULA, GA. 31733

RESUME OF QUALIFICATIONS

912-831-6175 (HOME)
912-386-3309 (WORK-WIFE)
912-386-3287 (WORK-WIFE)

SUMMARY OF QUALIFICATIONS

EXPERIENCE: OVER SEVENTEEN YEARS IN THE TELECOMMUNICATIONS FIELD, RANGING FROM OUTSIDE PLANT ENGINEER, CIRCUIT DESIGN ENGINEER, LONG LINES ENGINEER, NATIONAL ACCOUNTS SERVICE MANAGER, AND VOICE/DATA SYSTEMS CONSULTANT.

EDUCATION:
BEN HILL IRWIN TECHNICAL SCHOOL (1971)
KENNESAW JR. COLLEGE (1974)
GENERAL TELEPHONE TECHNICAL SCHOOLS (7 TOTAL)
SOUTHERN BELL TECHNICAL SCHOOLS (28 TOTAL)
AT&T TECHNICAL SCHOOLS (9 TOTAL)

STRENGTHS: HIGH ENERGY LEVEL AND MOTIVATED TO SUCCEED... ABILITY TO RELATE TO INDIVIDUALS FROM ALL CULTURAL AND FINANCIAL LEVELS...THOROUGH AND DISCIPLINED...PROFESSIONAL ATTITUDE, MANNER AND APPEARANCE...ABILITY TO MOTIVATE OTHERS TO EXCEL...CALM AND CONTROLLED IN HIGH PRESSURE SITUATIONS.

EXPERIENCE HIGHLIGHTS & HISTORY

OCT 85 TO PRESENT

MANAGING CONSULTANT
GEORGIA INTERNATIONAL COMMUNICATIONS CORP.
TIFTON, GA.

RESPONSIBILITIES INCLUDE MANAGING CONSULTING FIRM IN VOICE & DATA APPLICATIONS CONSISTING OF WIDE AREA NETWORKS & FIBER OPTIC NETWORKS WITH END USER EQUIPMENT FROM ALL MAJOR EQUIPMENT SUPPLIERS.

JAN 83 TO OCT 85

NATIONAL ACCOUNTS SERVICE MANAGER
AT&T ALBANY DISTRICT

RESPONSIBLE FOR MAINTAINING LARGE VOICE & DATA SYSTEMS. ALSO SERVING AS DISTRICT TECHNICAL SUPPORT. SUPPORTED ACCOUNT EXECUTIVES IN THE SOUTHERN REGION.

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MAY 73 TO DEC 82 SOUTHERN BELL
ATLANTA, GA.

THESE YEARS INCLUDED A STEADY PROGRESSION FROM CABLE REPAIRMAN TO ENGINEER, WHICH INCLUDED PBX, LOCAL, & CENTRAL OFFICE CIRCUIT DESIGN & LONG LINES ENGINEERING; AND INVOLVED ME WITH THE CARTER PRESIDENTIAL TEAM AS WELL AS THE NEW ATLANTA HARTSFIELD PROJECT.

DEC 69 TO MAY 73 GENERAL TELEPHONE
ATLANTA, GA.

THIS POSITION STARTED AS LINEMAN WITH A SERIES OF PROMOTIONS TO MANAGEMENT AS OUTSIDE PLANT ENGINEER.

PERSONAL DATA

DATE OF BIRTH- AUGUST 31, 1950
HEIGHT - 6'2"
WEIGHT - 195 LBS
MARRIED - NO CHILDREN
HEALTH - EXCELLENT

REFERENCES AVAILABLE UPON REQUEST

OTHER ACTIVITIES

AVIATION INSTRUCTOR: HOLD COMMERCIAL & INSTRUCTOR RATINGS
ACTIVE FLIGHT INSTRUCTOR
ACTIVE CAPTAIN IN CIVIL AIR PATROL

LARRY THOMAS

Ben Hill-Irwin Technical Institute
Heating and Air Conditioning Instructor
(1980 - Present)

WORK EXPERIENCE	1975 - 1980 South Georgia Heating and Air Conditioning Position: Owner
	1965 - 1975 Starling Heating and Air Conditioning Position: Service Technician
	1963 - 1965 High Point Heating and Air Conditioning Position: Service Technician
CERTIFICATIONS	State of Georgia Conditioned Air Contractors; Heating and Air Conditioning Instructor
EDUCATION	1980 - 1981 Valdosta State College
	1951 - 1963 Coffee County High School high school diploma
PROFESSIONAL ORGANIZATIONS	Air Conditioning Contractors of America

TONY SHEFFIELD

Ben Hill-Irwin Technical Institute
Industrial Controls Technology Instructor
(1973 - Present)

WORK EXPERIENCE	1968 - 1973 S & H X-ray Company Position: Service Technician
EDUCATION	1965 - 1968 South Georgia Technical School
	1960 - 1965 Fitzgerald High School
PROFESSIONAL ORGANIZATIONS	G.V.A.

RECEIVED
2/22

Rec'd 4/23/91 wb

DDE

BEN HILL - IRWIN TECHNICAL INSTITUTE

BEN HILL-IRWIN TECHNICAL INSTITUTE EST. 1966

PO BOX 1069 • FITZGERALD, GEORGIA 31750 • PHONE 912/468-7487

REQUEST APPROVED
No additional funds authorized
Constance M. Tynes
~~Contracting~~/Grants Officer 4/3/91

February 15, 1991

Ms. Constance Tynes
Grants Management Office
400 Maryland Avenue, S.W.
ROB-3, Room 3652
Washington, D.C. 20202-4835

RE: Project V199A00014

Dear Ms. Tynes:

On January 30, 1991, I wrote to you informing you that Mr. Dan Redus was no longer project director.

Mr. William Ellis has been hired to replace Mr. Redus. Enclosed for your information is Mr. Ellis' biographical information. Mr. Ellis began work on February 4, 1991.

This change was discussed with Mr. Robert L. Miller, USDE Program Manager, during his visit with us on February 6-8, 1991.

Sincerely,

John R. Archer

John R. Archer
Director of Institutional Advancement

Encl

ja

RESUME OF WILLIAM L. ELLIS

PERSONAL:

Married - Lois (Chapin) Ellis
Children - Two sons, both married
Address - 106 Whispering Way
Fitzgerald, Georgia 31750
Telephone - (912) 423-8220
Current Position - Real Estate Associate
Roanoke Realty Inc.
Fitzgerald, Georgia

EXPERIENCE:

Leadership/Management

22 years of active duty with the U.S. Army as a Quartermaster Officer in positions of leadership and management culminating as a Battalion Commander over approximately 1200 individuals, both men and women. As a commander at both Company and Battalion levels, was responsible for complete welfare of those under my command to include housing, guidance, discipline and counseling. Both personal and career guidance and counseling were emphasized as the key to unit success within the chain of command.

Logistics Management

As a career logistician, studied all phases of logistics management to include procurement, requirements determination, distribution, storage, inventory control and disposal. Logistics assignments include manager of a self-service supply center, section chief in a major supply management activity, section chief in a data processing center, branch chief and commodity manager in an overseas supply and maintenance agency, and logistics author/instructor at the Army Command and General Staff College.

Instruction/Writing

As Author/Instructor at the Command and General Staff College, was responsible for writing and developing a subcourse in overseas logistics management to be presented by six other instructors. This responsibility involved travel to overseas areas such as Japan, Okinawa and Germany to gather current information, writing lesson plans, developing visual aids and scheduling classes. Also presented classes on this subject and others to both male and female students from all military services and officers from approximately 30 other countries. Class size ranged from 60 to 360.

As the Senior Army Instructor at Howe Military School and Fitzgerald High School for ten years, was responsible for the administration of the Junior Reserve Officer Training Corps program. Prepared master training schedules, lesson plans and instructor schedules and supervised the execution of the JROTC program in accordance with Department of Army guidance.

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RESUME (continued)

Review and Analysis

On two occasions was assigned to positions requiring the gathering of data concerning unit accomplishments, comparing that data to unit goals and recommending actions to superiors based on the analysis of the comparisons. At the high school level, was responsible for presenting and defending the JROTC program to Indiana and Georgia state accrediting committees. In both cases the program received excellent ratings.

EDUCATION:

Undergraduate - BS in Agriculture, Ohio University
Graduate - MS Secondary Education, Indiana University
Numerous military and civilian short courses in management, communications, data processing, race relations, counseling and career development. Completed the Georgia Real Estate Course and have been a licensed Real Estate Associate for the past four years. Also recently completed a course and have been certified to conduct residential housing appraisals.
Completed several computer programing and opertion courses at the local Vocational-Technical School and am qualified to teach non-credit introductory computer courses.

ORGANIZATIONS:

Omicron Delta Kappa - Ohio University (Mens' Honorary)
Past President Colony City Lions Club
Elder, Fitzgerald First Presbyterian Church
Georgia Association of Realtors
American Society of Professional Appraisers
Member, Fitzgerald Rotary Club
The Retired Officers Association

HEALTH: Excellent; Height - 6', Weight - 188

REFERENCES: Professional and personal references provided on request.

APPENDIX F

STUDENT EVALUATION FORM

VI. BEN HILL-IRWIN TECHNICAL INSTITUTE
TELECOMMUNICATIONS CO-OP PROGRAM
EMPLOYER'S WEEKLY REPORT

Student________________________________ SSN______-____-______

Week Ending (Sat)__________________________

Hours of Attendance:

Sun _________ Tues _________ Thur _________ Sat _________

Mon _________ Wed _________ Fri _________

Is the students progress in your program satisfactory at this point in terms of the following: (Circle Yes or No)

(1) attendance? Yes or No
(2) conduct? Yes or No
(3) punctuality? Yes or No
(4) job knowledge? Yes or No

Employer________________________________

Address________________________________

____

____

Supervisor's
Signature______________________________

Telephone______________________________

Date___________________________________

Changed (see attached)

Notice: Please file this report with Ben Hill-Irwin Tech weekly.

BEN HILL-IRWIN TECHNICAL INSTITUTE
TELECOMMUNICATIONS CO-OP PROGRAM
EMPLOYER'S WEEKLY REPORT

Student ______________________ Week ending (Sat) __________

Employer ____

Total work hours this week __________

Please note the student's performance and progress in each of the following areas. Scale: 5=excellent, 4=above average, 3=average, 2=below average, 1=poor.

(1) Dependability ______
(2) Job knowledge ______
(3) Quality of work ______
(4) Quantity of work ______
(5) Appearance ______
(6) Job Planning ______
(7) Attitude ______

Supervisor's remarks ______________________________________

____

____

____

Supervisor's signature ________________________ Date ______

Student's signature __________________________ Date ______

Co-op Director signature ______________________ Date ______

Please file this report weekly. Mail to:

Ben Hill-Irwin Tech
Telecommunications Co-op
P. O. Box 1069
Fitzgerald, GA 31750

ON-JOB-TRAINING PROGRAM

EMPLOYER'S REPORT TO

BEN HILL-IRWIN TECHNICAL INSTITUTE

Student Trainee ____________________ Program ____________________

Employer ____________________ Date ____________________

Period: From ____________________ To ____________________

To the employer: To assist us in evaluating the above-named student, we are asking that you check the appropriate block in the form below, and return it to Ben Hill-Irwin Technical Institute.

Work Record	Poor	Fair	Good	Excellent
Attendance				
Punctuality				
Dependability				
Personal Appearance				
Attitude Toward Fellow Workers				
Attitude Toward Job				
Follows Instructions				
Initiative (keeps busy)				
Accuracy				
Self-Confidence				
Accepts Constructive Criticism				
Appearance of Work Area				

Comments and Suggestions: ____________________

____

____

____
Signature of Supervisor

Changed (see attached)

BEN HILL-IRWIN TECHNICAL INSTITUTE
TELECOMMUNICATIONS COOPERATIVE TRAINING PROGRAM
EMPLOYER'S QUARTERLY EVALUATION REPORT

Co-op Student Name ____

Employer ____

Please evaluate the student/trainee's knowledge and performance in the following areas comparing him/her with others of comparable academic and experience level and with other personnel assigned to the same or similar classified jobs. Scale: 5-excellent, 4-above average, 3-average, 2-below average, 1-poor

AREA	KNOWLEDGE	PERFORMANCE
English		
Mathematics		
Interpersonal Relations		
AC and DC Circuits		
Digital and Solid State Devices		
Computer Systems		
Telephony Systems		
Microprocessor Interfacing		
Fiber Optics		
Telecommunications System Installations		
Telecommunications System Maintenance		
Traffic Analysis		
Network Design		

Remarks ____

____

____

____

____

Do you feel that the cooperative training program has been of value to your company? Please explain.

Please state any suggestions you may have to improve the operation of the cooperative training program. Attach additional pages if needed.

Evaluator (Print or Type Name)

Phone Number

Signature

Date

Please prepare this report near the end of each quarter of the student trainee's work experience and return to:

Ben Hill-Irwin Tech
Telecommunications Co-op Director
P. O. Box 1069
Fitzgerald, GA 31750

ATTACHMENTS

Georgia State University
a unit of the university system of georgia

university plaza
atlanta, georgia 30303

Ed Greene, President
Ben Hill-Irwin Technical Institute
P. O. Box 1069
Fitzgerald, GA 31750

Dear Mr. Greene:

I am enclosing a copy of a survey conducted by the National Telecommunications Education Council in 1986. The results of the survey indicate most jobs will occur in sales and technical areas. Of course, the technical area is of primary concern; however, expertise in the technical area can also lead to a position in sales for some individuals. Also, the Southeast is projected as the leading area for jobs in telecommunications.

The Georgia Interconnect Association, an association of companies involved in the sale, installation, and repair of business communication equipment, indicated that a growing need exists for qualified communication technicians.

The important point to remember is that we are talking about an individual more highly skilled than the residential telephone installer. There has been substantial layoffs of residential telephone installers since the breakup of the Bell system, but this has not been the case with Interconnect companies. They have expanded rapidly since the break up of Bell; therefore, they are in need of trained personnel. According to GIA members, most of the telephone installers laid off by Bell and others do not have the skills for which they are looking or they demand too high a salary.

Hopefully, this information will be helpful. If you need more information, give me a call at (404) 651-2530, and I will try to find additional sources.

Sincerely,

Richard Thornton

Richard Thornton

Introduction

During July and August of 1986, NTEC sent questionnaires to the human resources executives of some of the largest firms in the telecommunications industry. These questionnaires surveyed:

- These executives' projections for the near future (five years) of employment in the industry: In which segments of the industry jobs will increase or decrease, and by how much; and in which broad job categories there will be an increase or decrease, and by how much.
- These executives' projections of what geographical areas of the U.S. will produce jobs and which will not.
- The minimum or preferred educational level these executives' companies specify for applicants in broad job categories, and whether their companies give skills evaluation tests to potential employees.
- These executives' opinions about whether the education of current job applicants is adequate, and if not, what skills and knowledge are lacking; as well as their opinions about how people hired recently compare in their educational preparation to those hired ten years ago.
- Whether these executives' companies presently support, or would consider supporting, technical training programs in public and private schools, and with what form of support.

For questions on employment projections, executives were asked to consider themselves part of a "Council of the Wise"--as people generally knowledgeable about employment trends in the industry as a whole. They were to make projections even for segments of the industry in which their own companies were not included, or in geographical areas in which their companies did not operate. In other words, they were asked not to speak as company representatives per se but as independent experts whose opinions were nevertheless affected by their experiences in their companies.

Other questions required the executives to speak only for their company. These were questions on company policy for educational requirements for employees hired, company support for educational programs in schools, and so on. Other questions also required the executives to speak from their own specific experiences in their companies, regarding their evaluations of the education of present and past job applicants.

A smaller number of executives were asked to rank the relative importance of certain skills and knowledge for people to have before applying for various jobs in telecommunications.

Human resources executives from seventeen of the largest companies in the telecommunications industry responded.

Note that this number of responses is insufficient for sophisticated

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quantitative analysis. Quantitative answers should therefore be taken with a grain of salt. Interpret them as general trends rather than as precise projections. In addition, while looking over the returns, we found that some respondents gave quantitative answers that seemed very precise, possibly taken from in-house studies they had done, while some others seemed to respond on the basis of their own intuition--another reason for taking the quantitative answers as "soft."

We emphasize again that the respondents were not asked to give their companies' employment projections, although it was expected that their companies' situations would color their answers.

Definition of Terms Used

Telecommunications: Electronic transmission over distance of voice, data, image, or facsimile.

Telecommunications employment divided into three broad categories:

- **Technical:** Includes equipment installation and service technicians, terminal and switch technicians, design engineers, field engineers, technical operations managers, and technical training managers.
- **Sales and Marketing:** Includes sales and marketing representatives and managers, communications consultants, and sales training managers.
- **Non-Technical:** Includes customer service representatives, clerical, administrative, financial, human resources, and other support personnel.

The telecommunications industry divided into three broad categories:

- **Carriers:** Companies that provide transmission services.
- **Interconnects:** Companies that manufacture or distribute telecommunications equipment.
- **End Users:** Companies not in the telecommunications business, but large enough to have created their own private telecommunications networks.

PART I

In Part I, respondents were asked to answer as generally knowledgeable experts across the entire industry, not as company representatives.

1. What percent of increase or decrease in the number of jobs in telecommunications do you project over the next five years?

Results: Of the three job categories (technical, sales & marketing, and non-technical), sales & marketing and technical jobs were projected to increase in all three industry categories (carriers, interconnects, and end users). Non-technical jobs were also generally projected to increase, but by a smaller percentage.

Of the three industry categories, respondents generally projected a larger percentage of increase in the number of jobs in end-user companies than in either carriers or interconnects. It should be remembered that this does not necessarily mean that the total number of jobs available in end user companies will be greater than those in carriers or interconnects: Only the percentage of change of the original populations was considered, not the aggregate number of jobs.

Job & Industry Category	Mean % Increase
Technical:	
Carriers	8.1
Interconnects	6.2
End Users	17.4
Sales & Marketing:	
Carriers	15.8
Interconnects	9.4
End Users	9.2
Non-Technical:	
Carriers	1.5
Interconnects	3.3
End Users	5.4

Job Category	Mean % Increase
Technical	10.5
Sales & Marketing	11.4
Non-Technical	3.4

Industry Category*	Mean % Increase
Carriers	8.6
Interconnects	6.4
End Users	8.9

* Remember that each respondent answered for all three categories, not just the category of their own company, much less just for their own company.

2.A. Suppose a student came to you for advice about what area of telecommunications he or she should specialize in to take advantage of the greatest number or job or career opportunities within the next five years. Which of the following areas offers them the best opportunities: Technical, Sales, Non-Technical?

Results: The answers generally support the results from the previous question, emphasizing the respondents' optimistic view of career opportunities in sales and marketing and technical jobs, and their less optimistic view of opportunities in non-technical jobs in the industry.

2.B. How would you rank in order each of the job and industry categories for opportunities in the next five years? (1=highest rank, 2=middle, 3=lowest)

Results: Overall, sales & marketing was ranked first, technical was ranked second, and non-technical was ranked third. However, in the interconnect industry, job opportunities were projected to be greater for technical personnel than for sales & marketing personnel.

3.A. What geographical areas of the U.S. do you see emerging as the leading locations for new jobs in telecommunications?

Results:

POOR	FAIR	EXCELLENT	
2	10	5	NorEst (MA, NH, ME, VT)
0	9	8	East (CT, DC, VA, MD, NY, NJ, RI, PA, DE, WV)
0	5	12	SouEst (SC, NC, GA, FL)
7	4	6	South (TN, KY, MS, AL, LA)
3	8	6	SouWst (TX, OK, MO, AZ, NM, AR)
2	14	1	MidWst (MI, OH, IL, IN, NE, IA, KS)
6	11	0	NorCen (MN, WI, ND, SD)
4	10	3	West (CO, MT, ID, NV, UT, WY)
0	6	10	PacCst (OR, WA, CA)

Weighting the results by assigning values to the three possible answers (Poor=1, Fair=2, Excellent=3), then dividing by total number of respondents, these regions can be ranked in order:

Rank Order	Wghtd Reslt	Region
1	2.706	SouEst
2	2.471	East
2	2.471	PacCst
4	2.176	NorEst
4	2.176	SouWst
6	1.947	West
7	1.941	South
8	1.824	MidWst
9	1.647	NorCen

A simple and perhaps unnecessary caution: Beware of trying to go from general (region) to particular (e.g., city). Though both in the same region, the telecom industry looks quite different in Dallas, TX, than it does in Truth or Consequences, NM. Different in downtown Washington, DC, than in Palmyra, VA.

3.8. Will future employment continue to follow population trends with more job opportunities concentrated in the more heavily populated areas? If yes, what specific cities do you foresee emerging as leading locations for new jobs in telecommunications?

Results: 15 respondents answered yes; 2 respondents answered no.

The following cities were cited by respondents, ranked in order from highest to lowest number of times cited:

Region	# of Times Cited
New York--North Jersey	7
Los Angeles	7
San Francisco	7
Washington, DC	7
Atlanta	6
Dallas	6
Boston	5
Miami	5
Chicago	4
Denver	2
Philadelphia	2
Houston	2
Orlando	2
Raleigh-Durham	2
Seattle	1
Pittsburgh	1
Phoenix	1
Salt Lake City	1
Charlotte	1
Sacramento	1
San Jose	1

John
ARCHER?

GTE

GTE South

July 17, 1989

P. O. Box 969
Fitzgerald, GA 31750

Mr. Glenn Bishop
Instructor - Communications
Ben Hill-Irwin Technical Institute
P. O. Box 1069
Fitzgerald, Georgia 31750

Dear Glenn,

In reference to your request for endorsement of the Co-Op Communications Program at your school, let me say the following. The communications industry is changing, likewise, the industry is also much more technical every day. I commend your school and what it is doing towards providing quality personnel for the communications industry today.

The new Co-Op program will provide your students the much needed assistance in starting out on their new career. So many times today the young career seekers of today are denied the opportunity for quality training due to like of finances or other types of assistance. Let me encourage you to continue pursuing your programs for providing quality technical training to the career seekers in our area and congratulate you on the fine job you have done up to now.

Yours truly,

GILLIS R. (SKIP) DAWKINS
Service Manager

GRD/kh

G I A

Georgia Interconnect Association P. O. Box 1449 Norcross, Georgia 30091

July 14, 1989

Mr. Glenn Bishop
Ben Hill - Irwin Technical Institute
P. O. Box 1069
Fitzgerald, GA 31750

Mr. Bishop:

The Georgia Interconnect Association, an organization of 72 interconnect companies, requested the development of a Vocational Technical School with a cirriculum designed to train and develop indiviuals who meet our requirements as Telecommunications technicians.

Over the past year we have had the opportunity to redefine the need and level of interest from the interconnect industry, and we concur that the technically specific talent isn't available. The gap is in the basic skills; Math, Electronics, AC/DC, and Telephony installation, design, and implementation. We also have a severe need for Interpersonal/Business relationship skills.

Our continuing education requirements are also significant. We have a severe need to provide technical training to those individuals currently employed in the workplace. Training in Data Communications, Computer Fundamentals, AC/DC, T-1, Packet Switching are "hot" items which we need immediately.

I am delighted with the efforts both you and Bill Frazier of Gwinnett Technical Institute have put into the program. The Georgia Interconnect Association wholeheartedly endorses and supports the Telecommunications Program.

I feel we have an Industry and Education handshake for a most productive and industry specific program.

Very truly yours,

Carrie King Down
President

CKD/sh

cc: Mr. Bill Frazier
Gwinnett Technical Institute

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HIGH TECHNOLOGY DEMONSTRATION PROJECT

(V199A00014)

TELECOMMUNICATIONS COOPERATIVE PROGRAM WITH INDUSTRY

BASE-LINE MANAGEMENT PLAN

BEN HILL-IRWIN TECHNICAL INSTITUTE
FITZGERALD, GEORGIA
31750

PRELIMINARY QUARTER, 1989

OCTOBER	NOVEMBER	DECEMBER
Radio/Newspaper/TV advertising (VP, SDS)	Radio/Newspaper/TV advertising (VP, SDS)	Radio/Newspaper/TV advertising (VP, SDS)
Group A begins Telecommunications Program		Develop Telecommunications co-op brochure for students (Admin. Asst.)
		Develop Telecommunications co-op brochure for industry (Admin. Asst.)

FIRST QUARTER, 1990

JANUARY

Begin project manual (Bishop)

Begin program promotion among Interconnect organizations by direct mail (Bishop/VP, SDS)

Student Recruitment - Radio/TV/Newspaper
Direct mail to:
a) high school guidance counselors
b) labor offices
c) family/children
d) probation officers
e) vocational rehabilitation
f) other vocational schools
(VP, SDS)

Appoint project advisory committee (Project Director)

Distribute Telecommunications Co-op brochures to area businesses, industries, schools (Admin. Asst.)

Group B begins Telecommunications Program

FEBRUARY

Radio/Newspaper/TV advertising (VP, SDS)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Attend Interconnect Forum (Bishop)

MARCH

Radio/newspaper/TV advertising (VP, SDS)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Quarterly project staff update (Proj. Dir.)

Quarterly report to USDE (Proj. Dir.)

SECOND QUARTER, 1990

APRIL

Group A students submit application for co-op (Bishop)

Press release (VP, SDS)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Group C begins Telecommunications Program

Group B submits application for co-op

MAY

Attend Interconnect Forum - Atlanta (Bishop)

Press release (VP, SDS)

Direct mail to area high school seniors (VP, SDS)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

JUNE

Parties sign co-op agreement for Groups A and B (VP, Inst.)

Advisory Committee meeting (Proj. Dir.)

Press release on advisory meeting (VP, SDS)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Quarterly project staff update (Proj. Dir.)

Quarterly report to USDE (Proj. Dir.)

Annual Report

THIRD QUARTER, 1990

JULY

Order tools for Groups A and B co-op students (Bishop)

Radio/Newspaper/TV advertising (VP, SDS)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Group C submits application for co-op

Group D begins Telecommunications Program

AUGUST

Radio/Newspaper/TV advertising (VP,SDS)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

SEPTEMBER

Issue tools to Groups A and B co-op students (Bishop)

Attend Interconnect Forum (Bishop)

Radio/Newspaper/TV advertising (VP,SDS)

Direct mail to industry again explaining the success of Telecommunications Program (VP, SDS)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Quarterly project staff update (Proj. Dir.)

Quarterly report to USDE (Proj. Dir.)

Parties sign co-op agreement for Group C (VP, Inst.)

FOURTH QUARTER, 1990

OCTOBER

Group A co-op students begin practicum experience

Press release (VP, SDS)

Bi-monthly per diem issued (VP, Admin. Ser.)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Group B students begin 1st practicum

Order tools for Group C co-op students (Bishop)

Group D submits application for co-op

NOVEMBER

Lead instructor visits work sites (Bishop)

Press release (VP, SDS)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

DECEMBER

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Quarterly project staff update (Proj. Dir.)

Quarterly report to USDE (Proj. Dir.)

Issue tools to Group C co-op students (Bishop)

Parties sign co-op agreement for Group D

FIRST QUARTER, 1991

JANUARY

Groups A and B return to BHIT for 5th and 4thquarter curriculum (VP, Inst.)

Group A and B students/ industries evaluate co-op program (VP, Inst.)

Advisory Committee meeting (Proj. Dir.)

Press release on Advisory Committee meeting (VP, SDS)

Radio/newspaper/TV advertising (VP, SDS)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Group C students begin 1st practicum experience (Bishop)

Order tools for Group D co-op students (Bishop)

FEBRUARY

Radio/newspaper/TV advertising (VP, SDS)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Lead Instructor visits work site (Bishop)

MARCH

Radio/newspaper/TV advertising (VP, SDS)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Quarterly project staff update (Proj. Dir.)

Quarterly report to USDE (Proj. Dir.)

Issue tools to Group D co-op students (Bishop)

SECOND QUARTER, 1991

APRIL

Group A and B co-op students begin second practicum experience (Bishop)

Press release (VP, SDS)

Bi-monthly per diem issued (VP, Admin. Ser.)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Submit request to USDE for extension of project time (Proj. Dir.)

Group C students return to BHIT for fourth quarter curriculum (VP, Inst.)

Group C students/industries evaluate co-op program)VP, Inst.)

Group D co-op students begin first practicum experience

MAY

Begin preparation on video which describes program (Proj. Dir.)

Lead instructor visits work sites (Bishop)

Attend Interconnect Forum (Bishop)

Press release (VP, SDS)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

JUNE

Advisory Committee meeting (Proj. Dir.)

Press release on Advisory Committee meeting (VP, SDS)

Fiscal Accounting ProgramStatus Report (VP, Admin.Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Quarterly project staff update (Proj. Dir.)

Quarterly report to USDE (Proj. Dir.)

Annual Fiscal Report (VP, Admin. Ser.)

Group B students/industries evaluate co-op program (VP, Inst.)

Group B graduates

THIRD QUARTER, 1991

JULY

Group A returns to BHIT for 6th quarter curriculum or OJT (VP, Inst.)

Group A students/industries evaluate co-op program (VP, Inst.)

Radio/Newspaper/TV advertising (VP, SDS)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Group C co-op students begin second practicum experience (Bishop)

Group D students return to BHIT for fourth quarter curriculum

Group D students/industries evaluate co-op program (VP, Inst.)

AUGUST

Radio/Newspaper/TV advertising (VP, SDS)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Lead instructor visits work sites (Bishop)

SEPTEMBER

Group A students graduate (VP, Inst.)

Video completed (Proj. Dir.)

Project manual completed (Bishop)

Attend Interconnect Forum (Bishop)

Press release (VP, SDS)

Radio/Newspaper/TV advertising (VP, SDS)

Fiscal Accounting Pro gramStatus Report (VP, Admin.Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Quarterly project staff update (Proj. Dir.)

Quarterly report to USDE (Proj. Dir.)

Group C students/industries evaluate co-op program (VP, Inst.)

Group C graduates

FOURTH QUARTER, 1991

OCTOBER

Press release (VP, SDS)

Bi-monthly per diem issued (VP, Admin. Ser.)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Disseminate video and project manual according to dissemination plan (Proj. Dir.)

Group D co-op students begin second practicum experience (Bishop)

NOVEMBER

Lead instructor visits work sites (Bishop)

Press release (VP, SDS)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Advisory Committee meeting (Proj. Dir.)

DECEMBER

Radio/Newspaper/TV advertising

Fiscal Accounting Pro gramStatus Report (VP, Admin.Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Quarterly project staff update (Proj. Dir.)

Group D students/industries evaluate co-op program (VP, Inst.)

Group D graduates

Final quarterly report to USDE (Proj. Dir.)

FIRST QUARTER, 1992

JANUARY

Group B students return to BHIT for 6th quarter curriculum or OJT (VP. Inst.)

Group B students/industries evaluate co-op program (VP, Inst.)

Group C students return to BHIT for 5th quarter curriculum (VP, Inst.)

Group C students/industries evaluate co-op program (VP, Inst.)

Advisory Committee meeting (Proj. Dir.)

Press release on Advisory Committee meeting (VP, SDS)

Radio/Newspaper/TV advertising (VP, SDS)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

FEBRUARY

Radio/Newspaper/TV advertising (VP, SDS)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

MARCH

Group B students graduate (VP, Inst.)

Radio/Newspaper/TV advertising (VP, SDS)

Fiscal Accounting ProgramStatus Report (VP, Admin.Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Quarterly project staff update (Proj. Dir.)

Quarterly report to USDE (Proj. Dir.)

SECOND QUARTER, 1992

APRIL

Attend Interconnect Forum (Bishop)

Press release (VP, SDS)

Group C co-op students begin second practicum experience (Bishop)

Bi-monthly per diem issued (VP, Admin. Ser.)

Fiscal Accounting Pro gramStatus Report (VP, Admin.Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

MAY

Direct mail to high school seniors (VP, SDS)

Fiscal Accounting Pro gramStatus Report (VP, Admin.Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Radio/Newspaper/TV advertising (VP, SDS)

JUNE

Advisory Committee meeting (Proj. Dir.)

Press release on Advisory Committee meeting (VP, SDS)

Fiscal Accounting Pro gramStatus Report (VP, Admin.Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Quarterly project staff update (Proj. Dir.)

Quarterly report to USDE (Proj. Dir.)

Annual Fiscal Report (VP, Admin. Ser.)

THIRD QUARTER, 1992

JULY

Group C returns to BHIT for 6th quarter curriculum or OJT (VP, Inst.)

Group C students/industries evaluate co-op program (VP, Inst.)

Radio/Newspaper/TV advertising (VP, SDS)

Fiscal Accounting Pro gramStatus Report (VP, Admin.Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

AUGUST

Radio/Newspaper/TV advertising (VP, SDS)

Fiscal Accounting Pro gramStatus Report (VP, Admin.Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

SEPTEMBER

Group C students graduate (VP, Inst.)

Radio/Newspaper/TV advertising (VP, SDS)

Fiscal Accounting Pro gramStatus Report (VP, Admin.Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Quarterly project staff update (Proj. Dir.)

Final quarterly report to USDE (Proj. Dir.)

DEFINITION OF ACRONYMS

Proj. Dir.	Project Director John Ross Archer
VP, Admin. Serv.	Vice President, Administrative Services Peggy Tucker
VP, SDS	Vice President, Student Development Services Richard Cargile
VP, Inst.	Vice President of Instruction Diane Collins
Admin. Asst.	Administrative Assistant To be disignated
Bishop	Telecommunications Lead Instructor Glen Bishop
USED	US Department of Education

PROJECT DISSEMINATION PLAN

SCOPE

This plan addresses two basic phases for the dissemination of information relative to the project: (1) the presentation of information gleaned from the project experience, including established need for the project, project design, method of implementation, lessons learned, and post-project evaluation; and (2) the target audience and the method of dissemination.

PRESENTATION OF INFORMATION

It is anticipated that information describing the project and project results will be packaged, utilizing two media techniques - a bound descriptive document and a video tape.

The bound document will include a thorough and detailed account of the following:

- How the need for the project was justified
- How the project was designed
- Involvement of the telephone industry, and telephone interconnect associations
- Method of project implentation
- The need for and role of a project advisory committee
- A compilation of lessons learned
- An overall project evaluation.

The documented presentation will be assembled in a detailed outline format and will contain administrative forms utilized in operation of the project.

A video tape will be made to present visually in capsulate form essentially the same information presented in the bound document. It is believed that the video version of the presentation will have application to live audiences of a conference/group nature, and that it will supplement and complement a verbal presentation.

TARGET AUDIENCE AND METHOD OF DISSEMINATION

Audiences will be selected from those groups, associations, business, industry, and governmental agencies which have an innate or obligatory interest in telecommunications. As a minimum, the following agencies will be targeted.

The National Interconnect Association
The Georgia Interconnect Association
ERIC Clearing House and the six major curriculum coordination centers
The Georgia Department of Technical and Adult Education
Appropriate federal agencies
Other interested parties/agencies as they are identified.

Selected members of the project staff will include the following: Dr. Edgar B. Greene, President of Ben Hill-Irwin Technical Institute; John R. Archer, Project Director; Diane Collins, Vice President for Instruction; Richard Cargile, Vice President of Student Development Services; Glen Bishop, Lead Telecommunications Instructor. Throughout the interconnect agencies, educational agencies, and any other interested groups or agencies, they will seek opportunities to make verbal presentations relative to the project. These presentations will be supplemented with the video and documental presentations.

In addition to personal contact presentations sufficient copies of the documented presentation and limited copies of the video presentation will be available to respond to inquiries regarding the project results.

JOB DESCRIPTION

ADMINISTRATIVE ASSISTANT
TO THE
PROJECT DIRECTOR

The administrative assistant to the project director will be responsible to the project director for the following:

The clerical typing, filing, and maintenance of all records and correspondence associated with the project

The timely flow, completion, and accuracy of fiscal accounting documents associated with the project

Liaison between the staffs of the school and the practicum employers where the paper flow is concerned

Assimilation, collation, final typing, and distribution of reports, data, and documents as directed by the project director and the vice president for administrative services

Reception and direction of incoming and outgoing telephone traffic to and from the office of the project director

Assistance for the project director and the lead telecommunications instructor with the compilation and dissemination of video and documented descriptive literature pertaining to the project

All other reasonable duties as assigned by the project director.

SUPPLEMENT #2

TELECOMMUNICATIONS
TECHNOLOGY
PROGRAM GUIDE

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TELECOMMUNICATIONS TECHNOLOGY
PROGRAM GUIDE

COURSE	CLASS HOURS	LAB HOURS	TOTAL CLOCK HOURS	CREDIT HOURS
First Quarter				
TEL 101 D.C. Circuits	26	26	52	5
TEL 102 A.C. Circuits	26	26	52	5
TEL 103 Digital Devices	40	12	52	5
TEL 104 Solid State Devices	40	12	52	5
MAT 103 Algebraic Concepts	52	0	52	5
MAT 104 Geometry and Trigonometry	52	0	52	5
Second Quarter				
TEL 106 Basic Telephony Skills	26	26	52	4
TEL 107 Cable Installation	26	26	52	3
TEL 108 Telephone System Installation	26	26	52	4
TEL 109 Troubleshooting & Repair	26	26	52	4
TEL 105 Computer Fundamentals	52	0	52	4
Third Quarter				
ENG 101 English	40	12	52	5
TEL 110 Basic Telecommunication Concepts	40	12	52	4
TEL 111 Data Communications	40	12	52	6
TEL 112 Digital Telephony	40	12	52	6
TEL 114 Microprocessor Interfacing	40	12	52	5
TEL 115 Basic Analog Communications	26	26	52	3
Fourth Quarter				
TEL 116 Fiber Optics	40	12	52	5
PSY 100 Interpersonal Relations and Professional Development	52	0	52	3
XXX XXX Elective	52	0	52	5
TEL 113 System Installation & Testing	26	26	52	4
TEL 117 Traffic Analysis	52	0	52	3
TEL 118 Network Design Fundamentals	52	0	52	4

Total Credit Hours: 102
Total Clock Hours: 1248

TELECOMMUNICATIONS TECHNOLOGY

PROGRAM GUIDE

Ben Hill-Irwin Technical Institute
Fitzgerald, Georgia

Winter 1990

GENERAL INFORMATION

Introduction

Overview

Telecommunications has evolved from radio systems originally limited to wire and simple amplitude modulation (AM) to sophisticated analog communications, digital communications, video communications, microwave, and radar. Training technicians for today's diverse and complex technologies in the telecommunications field is of paramount importance. The need for telecommunications technicians who can apply practical problem solving techniques to complex situations encountered in the present technology has increased significantly. The merging of the various telecommunication technologies requires the sort of developmental, maintenance support, and operational personnel who can adjust and adapt to new situations with a minimum of training. This has heightened the need for a trained technician who combines theoretical and conceptual knowledge with the manipulative skill of the craftsman. It is toward this end that this telecommunications program has been developed.

TELECOMMUNICATIONS TECHNOLOGY

PHILOSOPHY

The basic beliefs, attitudes, and concepts that are the foundation of the Telecommunications Technology program are expressed in the following statements.

Telecommunications Technology is a program of study which is compatible with the policies of the Georgia Board of Technical and Adult Education and encourages each Telecommunications Technology student to benefit and contribute as a partner in the economic development and stability of Georgia. The philosophy of the Telecommunications Technology program is founded on the value attributed to individual students, the telecommunications technology field, and technical education.

The Telecommunications Technology program of study is consistent with the philosophy and purpose of the institution. The program provides academic foundations in communications, mathematics, and human relations, as well as technical fundamentals. Program graduates are well grounded in the fundamentals of telecommunications technology theory and application and are prepared for employment and subsequent upward mobility.

The Telecommunications Technology program is a program that provides the student with necessary knowledge and skills to adapt to a variety of positions in the rapidly changing telecommunications technology field. Graduates perform functions at the technician level. Technicians may work alone, or as a member of a team. Skill development in computer technology plays a vital role in the Telecommunications Technology program. Important attributes for success of program graduates are critical thinking, problem solving, human relations skills, and the ability to apply technology to work requirements.

The program structure acknowledges individual differences and provides opportunities for students to seek fulfillment of their educational goals. The program does not discriminate on the basis of race, color, national origin, religion, sex, handicapping condition, academic disadvantage, or economic disadvantage.

To assist each student to attain his or her respective potential within the program, both the instructor and the student incur an obligation in the learning process. The instructor is a manager of instructional resources and organizes instruction in a manner which promotes learning. The student assumes responsibility for learning by actively participating in the learning process.

TELECOMMUNICATIONS TECHNOLOGY

PURPOSE

The purpose of the Telecommunications Technology program is to provide educational opportunities to individuals that will enable them to obtain the knowledge, skills, and attitudes necessary to succeed in the field of telecommunications technology.

The Telecommunications Technology program provides educational opportunities regardless of race, color, national origin, religion, sex, age, handicapping condition, academic disadvantage, or economic disadvantage.

The Telecommunications Technology program is intended to produce graduates who are prepared for employment as network technicians. Program graduates are to be competent in the general areas of: English, mathematics, and interpersonal relations. Graduates are to be competent in the technical areas of: DC and AC circuts, digital and solid state devices, computer and telephony systems, microprocessor interfacing, fiber optics, telecommunications system installation and maintenance, traffic analysis, and network design.

TELECOMMUNICATIONS TECHNOLOGY

GOALS
(Process)

The goals of the Telecommunications Technology program are to:

1. Provide education which acknowledges individual differences and respects the right of individuals to seek fulfillment of educational needs.
2. Provide an environment which encourages the individual to benefit and contribute as a partner in the economic progress, development, and stability of Georgia.
3. Provide education which develops the potential of each student to become a productive, responsible, and upwardly mobile member of society.
4. Provide quality telecommunications technology education in an atmosphere that fosters interest in and enthusiasm for learning.
5. Prepare graduates to function as accountable and responsible members within their field of endeavor.
6. Prepare graduates to function as safe and competent practitioners in the telecommunications technology field.
7. Prepare program graduates with the highest level of competence possible given the constraints of the interests and ability levels of the individual.
8. Provide educational and related services without regard to race, color, national origin, religion, sex, age, handicapping condition, academic disadvantage, or economic disadvantage.
9. Foster employer participation, understanding, and confidence in the instructional process and the competence of Telecommunications Technology program graduates.

TELECOMMUNICATIONS TECHNOLOGY

ADMISSIONS
(Admission Requirements)

Standard Statement

Statewide admission requirements are implemented for the Telecommunications Technology program.

Explanatory Comment:

Admission refers to regular admission into a diploma granting program.

Statewide program admission requirements consider state and national occupational licensing and certifying requirements, where applicable.

The institution develops and implements clearly stated diploma program admissions policies and procedures.

Evaluative Criteria

The requirements for admission to the Telecommunications Technology program are:
a) attainment of 16 or more years of age;
b) achievement of the 9th grade level in reading, English, and math as shown on a statistically validated test; and
c) completion of application and related procedures.

Admission of transfer students to the Telecommunications Technology program is contingent upon their meeting the following requirements:
a) regular admission and good standing at a regionally accredited diploma or degree granting institution; and
b) proper completion of application and related procedures.

TELECOMMUNICATIONS TECHNOLOGY

ADMISSIONS
(Provisional Admission Requirements)

Standard Statement

Statewide provisional admission requirements are implemented for the Telecommunications Technology program.

Explanatory Comment

Provisional admission is granted to qualified students who do not meet the regular admission requirements of the program.

Provisionally admitted students are allowed to take developmental studies courses and/or certain occupational courses as designated in the course sequence standard.

The institution develops and implements clearly stated policies and procedures for entry into diploma programs on a provisional basis.

Evaluative Criteria

Provisional admission to the Telecommunications Technology program is afforded those students who do not meet program admission requirements but who meet provisional admission requirements.

The requirements for provisional admission to the Telecommunications Technology program are:
a) attainment of 16 or more years of age;
b) achievement of the 8th grade level in reading, English, and math as shown on a statistically validated test or recommendation by program faculty and designated admissions personnel on the basis of interview and assessment of student potential; and
c) completion of application and related procedures.

All Telecommunications Technology program students initially admitted on a provisional basis meet regular admission requirements prior to graduation.

Provisionally admitted students whose English, math, and/or reading achievement levels do not meet regular program admission requirements are required to enroll in developmental studies courses approved by the Georgia Board of Technical and Adult Education.

TELECOMMUNICATIONS TECHNOLOGY

ADMISSIONS
(Recruitment)

Standard Statement

The Telecommunications Technology program recruitment materials and practices are in the best interests of the students, institution, community, and employment market.

Explanatory Comment

The recruitment effort makes potential students aware of the services provided by the Telecommunications Technology program and the institution.

The recruitment effort seeks to serve the economic development of the community by affording opportunities to prospective students.

The institution develops and implements a systematic, overall recruitment effort designed to assist students in meeting their occupational needs.

Evaluative Criteria

The recruitment effort assists in maintaining and/or increasing the Telecommunications Technology program and institution enrollments.

The recruitment effort of the Telecommunications Technology program includes participation in or assistance with:
a) development and dissemination of informational materials;
b) recruitment activities with other programs within the institution;
c) communication with potential students through contact with employers, secondary schools, organizations, the program advisory committee, and others;
d) promotion of Telecommunications Technology program awareness among individuals and groups; and
e) consideration of the industrial and business needs of the community and employment market.

All recruitment materials and practices are ethical, equitable, and accurate in the depiction of the institution, the Telecommunications Technology program, and the potential benefits of program completion.

TELECOMMUNICATIONS TECHNOLOGY

OBJECTIVES
(Process)

The objectives of the Telecommunications Technology program are to:

1. Provide current curriculum, instructional materials, and equipment (in accordance with available funding) which teach knowledge, skills, and attitudes appropriate to industry needs.
2. Provide educational facilities which foster learning and provide safe, healthy environments available and accessible to all students who can benefit from the program.
3. Provide academic instruction which supports effective learning within the program and which enhances professional performance on the job.
4. Provide employability skills which foster work attitudes and work habits that will enable graduates of the program to perform as good employees.
5. Nurture the desire for learning so that graduates will pursue their own continuing education as a lifelong endeavor.
6. Provide an educational atmosphere which promotes a positive self-image and a sense of personal well-being.
7. Provide education that fosters development of good safety habits.
8. Provide admission, educational, and placement services without regard to race, color, national origin, religion, sex, age, or handicapping condition.
9. Provide information to the public regarding the program that will facilitate recruitment and enrollment of students.
10. Promote good public relations via contacts and regular communications with business, industry, and the public sector.
11. Promote faculty and student rapport and communications to enhance student success in the program.

TELECOMMUNICATIONS TECHNOLOGY

Special Needs of Students

The methods used in the Telecommunications Technology program to meet the special needs of students are described below:

1. Because students learn in different ways, a variety of resource alternatives is available; for example: books, slides, filmstrips, and tapes. Several teaching techniques are also employed: demonstration, explanation lecture, field trips, visual aids, and individualized instruction.
2. Students are actively involved in the courses that are taught in this program. Students may be permitted in some classes to work in pairs or teams as well as alone. Students may be provided the opportunity to proceed at different rates in certain situations but must complete courses as stated in the institutional policy manual.
3. The instructors are available before and after school for individual assistance.
4. Counseling will be provided when necessary or requested.
5. Students who are not succeeding in the program are referred to the school's developmental studies personnel for diagnosis and possible remedial assistance.

Student Evaluation

Students must complete all assigned tasks, written tests, and performance tests with an overall 2.0 GPA per quarter. Grading will be in accordance with the Institutional Policy Manual, Section 04.

TELECOMMUNICATIONS TECHNOLOGY

Work Habits and Attitudes

The Telecommunications Technology program curriculum stresses professional job performance required for maintaining and advancing in a job including, but not limited to, demonstration of:

a) knowledge of occupational and academic skills;
b) quality work standards;
c) productivity;
d) communication skills;
e) punctuality;
f) problem solving skills;
g) interpersonal skills;
h) confidentiality; and
i) knowledge of the career ladder.

The Telecommunications Technology program curriculum stresses professional attitudes required for maintaining and advancing in a job including, but not limited to, demonstration of:

a) cooperativeness;
b) pleasantness;
c) responsibility;
d) self-control;
e) enthusiasm;
f) flexibility;
g) helpfulness;
h) loyalty; and
i) willingness to learn.

These work habits and attitudes will be instilled by requiring students to meet the objectives of the program and by having instructors set examples.

Health, Job Safety and Fire Prevention

At the first class meeting, primary and secondary evacuation routes for each area are explained. Evacuation routes are posted in the classroom or lab. An emergency medical treatment plan, which describes in detail the alternatives to use in case of an emergency, is posted in the classroom or lab. Safety is stressed in all parts of the Telecommunications Technology program. Safety posters are positioned in appropriate places. A safety foreman is appointed to inspect for unsafe conditions.

Student Records

The instructor keeps on file the following information for each student:

1. safety tests
2. grade reports
3. attendance records
4. accident reports
5. placement and follow-up information

Placement and follow-up information and permanent records are filed in the Student Services Office.

GENERAL INFORMATION

Program Description

Program Defined

The Telecommunications Technology program is designed to address the needs of the interconnect companies in the telephone industry. The program provides the occupational foundation which will enable graduates to become employed in occupations involving the installation, maintenance, and repair of telecommunications systems and associated equipment.

GENERAL INFORMATION

Program Description

Typical Job Titles

Job Titles

The Technical Committee for the Telecommunications Technology Curriculum Development Project examined the technical occupational areas for the telecommunications industry and identified five job titles for which training is required.

The Telecommunications Technology program is assigned the CIP code taxonomy number of 47.0190. The five job titles are listed below in descending order from the one requiring the most skill to the one requiring the least skill.

Network Technician

Communications Technician III

Communications Technician II

Communications Technician I

Cable Installer

FIRST QUARTER

Course Title	Credit Hours	Instructor	Period	Location	Class Hours	Lab Hours	Clock Hours
TEL 101 D.C. Circuits	5	Griffin	1	Electronics Lab	26	26	52
TEL 102 A.C. Circuits	5	Griffin	2	Electronics Lab	26	26	52
TEL 103 Digital Devices	5	Griffin	3	Electronics Lab	40	12	52
TEL 104 Solid State Devices	5	Griffin	4	Electronics Lab	40	12	52
MAT 103 Algebraic Concepts	5	Griffin	5	Electronics Lab	52	0	52
MAT 104 Geometry and Trigonometry	5	Griffin	6	Electronics Lab	52	0	52
TOTALS	30				236	76	312

FUNDAMENTAL TECHNICAL

TEL 101 - DC CIRCUITS

Course Overview

Course Description

This course provides students with the knowledge and skills to analyze basic DC circuits. The properties of series and parallel circuits are analyzed and measured. DC circuit theorems are used to analyze circuit parameters.

Competency Areas

Introducing electricity
Calculating and measuring electrical properties
of series, parallel, and combination circuits
Using DC circuit theorems
Practicing lab and shop safety

Credit Hours: 5

Contact Hours: Class - 26
Lab - 26

FUNDAMENTAL TECHNICAL

TEL 101 - DC Circuits

Course Outline

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
INTRODUCING ELECTRICITY		13	13
Voltage	Define voltage, current, resistance, power, and conductance.		
Current			
Insulators	Read and interpret color codes to identify resistors.		
Conductance			
Power	Compute and measure conductance and resistance.		
Resistance			
Quantitative units of measure	Calculate total resistance, voltage, current, and power using Ohm's and Watt's laws.		
Interrelationships	Describe the interrelationship between Ohm's and Watt's laws.		
	Define and draw simple resistive circuits.		
CALCULATING AND MEASURING ELECTRICAL PROPERTIES OF SERIES, PARALLEL, AND COMBINATION CIRCUITS		13	13
Series circuits	Measure the current and voltage in a DC series, parallel, and combination circuits.		
Parallel circuits			
Combination circuits			

FUNDAMENTAL TECHNICAL

TEL 102 - AC CIRCUITS

Course Overview

Course Description

This course provides students with the knowledge and skills necessary to analyze basic AC circuits. It focuses on the fundamentals of AC circuits introducing capacitance, inductance, resistance, and magnetism.

Competency Areas

Introducing magnetism
Alternating current
Identifying nonsinusoidal wave forms
Measuring inductance and capacitance
Analyzing reactance
Describing the operation of passive filters
Using test equipment

Credit Hours: 5

Contact Hours: Class - 26
Lab - 26

FUNDAMENTAL TECHNICAL

TEL 102 - AC CIRCUITS

Course Outline

		Hours	
Recommended Outline	After completing this section, the student will:	Class	Lab
INTRODUCING MAGNETISM		5	6
Domain theory of magnetism	Explain the domain theory of magnetism.		
Permeability from the BH curve	Determine the permeability of a material from the BH curve.		
Hysteresis	Define hysteresis.		
Magnetic circuits	Describe magnetic properties.		
ALTERNATING CURRENT		5	4
The sine wave	Determine peak value, instantaneous value, average value, and RMS value of a sine wave.		
Peak values			
Instantaneous values of voltage and current			
Degree and radian of sine waves	Identify frequency, time, and amplitude of a sinusoidal waveform.		
RMS values			
Average values			

Recommended Outline	After completing this section, the student will:	Hours	
		Class	Lab
MEASURING AND CALCULATING IMPEDANCE		5	5
RLC series circuits	Measure voltage and current in series, parallel, and complex RLC circuits.		
RLC parallel circuits			
RLC complex circuits			
Admittance, conductance, and susceptance	Determine the total impendance and admittance of a series and parallel circuit.		
Power factor	Suggest methods of compensating for leading or lagging power factors.		
DESCRIBING THE OPERATION OF PASSIVE FILTERS		5	4
Constant-K	Identify pi, L, and T section filters and state their use.		
M-derived	Describe the operation of constant-K, high pass, low pass, bandpass, and band stop filters.		
USING TEST EQUIPMENT		5	7
Oscilloscope	Analyze an measure AC signals using appropriate test equipment.		
Frequency counters			
Function generators			
Analog VOM			
RLC bridges			

FUNDAMENTAL TECHNICAL

TEL 103 - DIGITAL DEVICES

Course Overview

Course Description

This course introduces students to basic digital-logic circuits. Topics include logic gates, signal ocnversions, and memories, and introduces circuits found in digital computers.

Competency Areas

Applying Boolean Logic
Assembling arithmetic circuits
Converting signals
Analyzing memory devices
Using test equipment

Credit Hours: 5

Contact Hours: Class - 40
Lab - 12

FUNDAMENTAL TECHNICAL

TEL 103 - DIGITAL DEVICES

Course Outline

Recommended Outline	After completing this section, the student will:	Hours	
		Class	Lab
APPLYING BOOLEAN LOGIC		16	0
Number systems	Define and apply number systems to codes and arithmetic. Perform conversions among hexadecimal/octal/BCD numbering systems.		
Boolean algebra	Apply the basic principles of Boolean algebra to digital circuits.		
Codes	Describe the function of binary codes.		
Combinational logic	Explain how combinational logic is used in digital circuits.		
Karnaugh mapping	Define Karnaugh mapping.		
ASSEMBLING ARITHMETIC CIRCUITS		24	0
Logic gates	Analyze logic gates.		
Truth tables	Construct truth table for logic gates.		
Basic arithmetic circuits	Construct arithmetic circuits.		
Logic families	Identify, define, and measure characteristics of logic families.		

Recommended Outline	After completing this section, the student will:	Hours	
		Class	Lab
USING TEST EQUIPMENT		0	12
VOM and DVM	Set up and operate test equipment for digital devices.		
Logic probes			
Logic analyzers			
Signature analyzers			
Pulse generators			
Counters			

FUNDAMENTAL TECHNICAL

TEL 104 - SOLID STATE DEVICES

Course Overview

Course Description

This course provides students with the knowledge and skills to analyze basic solid state devices. The properties of diodes, bipolar transistors, and unipolar devices are analyzed and measured. Students use a variety of test equipment to troubleshoot solid state devices.

Competency Areas

Introducting semiconductor fundamentals
Describing diode applications
Describing bipolar transistor characteristics
Describing bipolar transistor amplifiers
Describing unipolar devices
Troubleshooting semiconductor devices

Credit Hours: 5

Contact Hours: Class - 40
Lab - 12

FUNDAMENTAL TECHNICAL

TEL 104 - SOLID STATE DEVICES

Course Outline

Recommended Outline	After completing this section, the student will:	Hours Class	Lab
INTRODUCING SEMICONDUCTOR FUNDAMENTALS		15	3
Electrons or holes	Identify properties of semiconductor materials.		
P-N junctions	Measure characteristics of P-N junction diodes.		
Forward and reverse bias			
Diode characteristics	Demonstrate the effect of forward and reverse bias on diode.		
DESCRIBING DIODE APPLICATIONS		10	3
Junction diodes	Describe the applications of different diodes.		
Zener diodes	Determine voltage-ampere characteristics of diodes.		
Tunnel diodes			
Rectifier circuits	Examine the operation of half-wave and full-wave rectifiers.		
Voltage multipliers	Explain the operation of voltage multipliers.		

Recommended Outline	After completing this section, the student will:	Hours	
		Class	Lab
DESCRIBING UNIPOLAR DEVICES		10	3
Junction field effect transistors	Explain the theory of operation of JFETs.		
JFET biasing	Test junction field effect transistors.		
Square law effect			
JFET amplifiers			
Metal oxide semiconductors			
TROUBLESHOOTING SEMICONDUCTOR DEVICES		5	3
Diode circuits	Troubleshoot semiconductor devices using test equipment.		
Single and multi-stage amplifiers			
Oscillators			
Basic power supplies			

MAT 103 - ALGEBRAIC CONCEPTS

Course Overview

Course Description

Introduces concepts and operations which can be applied to the study of algebra. Topics include: a review of arithmetic, signed numbers, order of operations, unknowns and variables, algebraic expressions, equations and formulas, and graphs. Class includes lecture, applications, and homework to reinforce learning.

Competency Areas

Basic mathematical concepts
Introduction to algebra

Credit Hours: 5

Contact Hours: Class - 52
Lab - 0

GENERAL CORE

MAT 103 - ALGEBRAIC CONCEPTS

Course Outline

Recommended Outline	After completing this section, the student will:	Hours	
		Class	Lab
BASIC MATHEMATICAL CONCEPTS		17	0
Review of arithmetic	Perform mathematical calculations using whole numbers, fractions, decimals, and percents.		
	Solve problems using exponents and radicals.		
	Use a calculator to perform basic mathematical operations to solve problems.		
INTRODUCTION TO ALGEBRA		35	0
Signed numbers	Identify signed numbers, absolute values, and scientific notation.		
	Perform basic operations using signed numbers.		
	Use signed numbers in elementary applications.		
Order of operations	List the hierarchy of operations.		
	Apply hierarchy of operations to solve mathematical problems requiring multiple operations.		

Recommended Outline	After completing this section, the student will:	Hours	
		Class	Lab
Unknowns and variables	Define unknowns and variables.		
	Recognize the difference between factors and terms.		
Algebraic expressions	Recognize literal expressions and terms.		
	Perform addition, subtraction, multiplication, and division of algebraic expressions.		
	Factor algebraic expressions.		
	Simplify algebraic expressions.		
Equations, formulas, and graphs	Solve linear equations of one unknown using numerical calculations, approximation, and graphics.		
	Solve a formula for a designated unknown.		
	Use formulas to solve applied problems under given conditions.		
	Solve applied problems using equations.		
	Solve linear equations of two unknowns using simultaneous equations, substitution, and graphing.		
	Solve linear equations of two and three unknowns using determinants.		

GENERAL CORE

MAT 104 - GEOMETRY AND TRIGONOMETRY

Course Overview

Course Description

Emphasizes the development of algebraic concepts and introduces geometric and trigonometric concepts. Topics include: exponents, algebraic fractions, higher order equations, functions, linear geometry, two dimensional geometry, three dimensional geometry, and trigonometric functions. Class includes lectures, applications, and homework to reinforce learning.

Competency Areas

Algebraic operations
Geometric formulas
Trigonometric functions

Credit Hours: 5

Contact Hours: Class - 52
Lab - 0

GENERAL CORE

MAT 104 - GEOMETRY AND TRIGONOMETRY

Course Outline

Recommended Outline	After completing this section, the student will:	Hours	
		Class	Lab
ALGEBRAIC OPERATIONS		20	0
Higher order equations	Solve higher order mathematical equations by use of formulas and factoring.		
Functions	Define functions. Define terminology of functions. Solve functions using graphics, approximation, and critical points.		
GEOMETRIC FORMULAS		12	0
Linear geometry	Use linear measurement to solve measurement problems.		
Two dimensional geometry and area	Discuss two dimensional Use the cartesian coordinate for graphing in two dimensions. Use area as two dimensions. Use area as two dimensional measurement. Find the area of rectangles, squares, triangles, and circles. Apply formulas to solve area problems.		
Three dimensional geometry and volume	Discuss solids, volume, and three dimensional concepts.		

Recommended Outline	After completing this section, the student will:	Hours Class	Lab
	Define three dimensional graphics and measure length in three dimensions.		
	Find the volume of cubes, rectangular solids, right circular cylinders, and spheres.		
	Apply formula to solve volume problems.		
TRIGONOMETRIC FUNCTIONS		20	0
Introduction to trigonometricradian functions	Define an angle in degrees and in measures.		
	Define the trigonometric functions using tables and calculators.		
Trigonometric functions and the right triangle	Define the trigonometric functions in terms of the sides of a right triangle.		
	Demonstrate the use of the Pythagorean theorem to solve for the sides of a right triangle.		
	Use the relationships between the trigonometric functions and the sides of a right triangle to solve for unknown angles or sides.		
Trigonometric functions of any angle	Use the measurement of the coordinates of the unit circle to define signs of trigonometric functions.		

Recommended Outline	After completing this section, the student will:	Hours	
		Class	Lab
	Define periodic condition of trigonometric functions.		
	Graph trigonometric functions. Convert angle measurement from degrees to radians and from radians to degrees.		
	Solve for the sides and angles of any triangle using the law of sines or the law of cosines.		
Applications of trigonometry	Define the concept of a vector.		
	Solve problems using vectors.		
	Define complex numbers.		
	Use complex numbers to solve problems.		

SECOND QUARTER

Course Title	Credit Hours	Instructor	Period	Location	Class Hours	Lab Hours	Clock Hours
TEL 106 Basic Telephony Skills	4	Bishop	1	Telecom Class & Lab	26	26	52
TEL 107 Cable Installation	3	Bishop	2	Telecom Class & Lab	26	26	52
TEL 108 Telephone System Installation	4	Bishop	3	Telecom Class & Lab	26	26	52
TEL 109 Troubleshooting & Repair	4	Bishop	4	Telecom Class & Lab	26	26	52
TEL 105 Computer Fundamentals	4	Lavender	5	Computer Lab	52	0	52
TEL 105 Computer Fundamentals		Lavender	6	Computer Lab	0	52	52
TOTALS	19				156	156	312

SPECIFIC TECHNICAL

TEL 106 - BASIC TELEPHONY SKILLS

Course Overview

Course Description

Basic Telephony Skills provides students with a foundation necessary to begin an indepth study of telecommunications. Topics include industry structure and services, safety, materials and supplies, tools, delivery and inventory of equipment, and symbols and specifications.

Competency Areas

Identifying industry structure
Differentiating carrier services
Describing interconnect services
Working safely
Identifying materials and supplies
Selecting and maintaining tools
Delivering and conducting an inventory of equipment
Following safety practices
Interpreting symbols and specifications

Credit Hours: 4

Contact Hours: Class - 26
Lab - 26

SPECIFIC TECHNICAL

BASIC TELEPHONY SKILLS

Course Outline

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
IDENTIFYING INDUSTRY STRUCTURE		3	0
The Bell system before divestiture	Identify the key segments of the industry following divestiture.		
The post divestiture view			
DIFFERENTIATING CARRIER SERVICES		8	6
Direct distance dialing	Differentiate among the services offered by Bell, carriers, and interconnect companies		
Conditioned lines			
Grade of service			
Equalizing lines			
Digital Access Cross-Connect system			
WATS			
Tie-line service			

Recommended Outline	After completing this section, the student will:	Hours	
		Class	Lab
SELECTING AND MAINTAINING TOOLS		6	10
Selection of tools			
Maintenance of tools	Select, use, and maintain tools used by a technician.		
Power tools			
DELIVERING AND CONDUCTING AN INVENTORY OF EQUIPMENT		3	8
Safe delivery practices	Outline the procedures for delivering and conducting an inventory of equipment.		
Delivery procedures			
Loading and unloading	Demonstrate proper method for loading, unloading, and storing equipment.		
Storing equipment			
Inventory			
FOLLOWING SAFETY PRACTICES		6	8
Safety equipment	Follow safe working practices at all times.		
Clearances and separations			
Cable support			
Gas detection and removal			
Power equipment	Demonstrate rescue techniques for aerial and underground situations.		
Rescue techniques			

SPECIFIC TECHNICAL

TEL 107 - CABLE INSTALLATION

Course Overview

Course Description

This course introduces the basics of cable installation from the initial site survey to splicing cable and making connections. Through extensive laboratory activities students perform the basic tasks of a cable installer.

Competency Areas

Surveying a site
Pulling cable
Making connections
Splicing cable

Credit Hours: 3

Contact Hours: Class - 26
Lab - 26

SPECIFIC TECHNICAL

CABLE INSTALLATION

Course Outline

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
SURVEYING A SITE		13	13
Material needs	Determine material, manpower and equipment needs.		
Manpower needs			
Special equipment needs	Check building for compliance with electrical codes.		
Compliance with electrical codes			
Placement of KSU			
Placement of telephone peripherals	Determine placement of equipment.		
Verification procedures			
Coordination with other trades	Verify backboard, power, ground, entrance conduit, and pull string.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
SPLICING CABLE		13	13
Safety	Follow all safety procedures for splicing cable.		
Types of cable	Identify types of cable.		
Splicing and bonding techniques	Demonstrate proper splicing and bonding techniques.		
Cable opening and closing techniques	Demonstrate proper cable opening and closing techniques.		
Grounding cable terminals	Ground cable terminals in subscriber buildings.		
Cable acceptance and completion testing	Perform cable acceptance and completion testing.		
Troubleshooting cable	Test and analyze grounds, noise levels, shield continuity, power influence levels, and transmission quality.		

SPECIFIC TECHNICAL

TEL 108 - TELEPHONE SYSTEM INSTALLATION

Course Overview

Course Description

This course is designed to teach the installation and testing of simple and complex telephone systems. Extensive laboratory activities give practical hand-on experience with various telephone systems.

Competency Areas

Installing straight line station apparatus and wiring
Installing special apparatus systems
Installing multi-line systems
Isolating faults
Testing lines
Programming key systems
Maintaining customer relations

Credit Hours: 4

Contact Hours: Class - 26
Lab - 26

SPECIFIC TECHNICAL

TELEPHONE SYSTEM INSTALLATION

Course Outline

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
INSTALLING STRAIGHT LINE STATION APPARATUS AND WIRING	Perform all work according to accepted safety practices.	7	6
Safety			
Grounding	Demonstrate procedure for grounding a station protector.		
Cross-connecting	Cross-connect cable pairs through subscriber carriers.		
Test facilities			
Installation	Install and test straight line station apparatus and wiring.		
Attachments			
INSTALLING SPECIAL APPARATUS SYSTEMS		7	6
Safety	Install and test special apparatus systems.		
Weatherproof jacks			
Signaling devices			
Paging systems			
Call diverters			
Data couplers			

Recommended Outline	After completing this section, the student will:	Hours Class	 Lab
ISOLATING FAULTS		7	8
CO lines	Use troubleshooting guides to isolate faults in equipment and lines.		
Intercom			
Attendant console			
Features programmed into system			
Speakers, paging, and other peripherals			
Determine location of fault			
TESTING LINES		5	6
Local	Test different types of lines and circuits.		
FX			
WATS			
OPX			
Tie lines			
Ring down circuits			
Equal access			
Dial up data			
FAX			
Modems			
Burglar alarm circuits	Install and test burglar alarm and fire alarm circuits.		
Fire alarm circuits			

SPECIFIC TECHNICAL

TEL 109 - TROUBLESHOOTING AND REPAIR

Course Overview

Course Description

This course introduces students to a procedure for troubleshooting telephone equipment and lines. Students learn proper testing techniques to use in troubleshooting. During extensive laboratory exercises students troubleshoot and repair various types of telephone equipment.

Competency Areas

Describing troubleshooting procedures
Troubleshooting and repairing self-contained key systems
Troubleshooting and repairing communication systems

Credit Hours: 4

Contact Hours: Class - 26
Lab - 26

SPECIFIC TECHNICAL

TROUBLESHOOTING AND REPAIR

Course Outline

Recommended Outline	After completing this section, the student will:	Hours Class	Lab
DESCRIBING TROUBLESHOOTING PROCEDURES		14	0
Function of system	Demonstrate proficiency in the use of a troubleshooting guide to locate faults in equipment lines.		
Symptom identification			
Problem isolation	Apply proper testing technique to isolate trouble.		
	Effect repair of defective portion of circuit		
	Complete necessary documentation on repair action.		
TROUBLESHOOTING AND REPAIRING SELF-CONTAINED KEY SYSTEMS		12	26
Safety	Follow accepted safety practices in the performance of all work.		
Test equipment usage	Demonstrate proficiency in the use of test equipment required to troubleshoot and repair self-contained key systems.		
Test result interpretation	Interpret the results of test equipment so as to identify a specific problem.		

FUNDAMENTAL TECHNICAL

TEL 105 - COMPUTER FUNDAMENTALS

Course Overview

Course Description

This course introduces students to computer structures and fundamental concepts. Topics include hardware and software, input/output systems, memory systems, and microprocessor applications.

Competency Areas

Introducing the microprocessor
Programming the microprocessor
Handling microprocessor input/output signals
Developing software
Developing hardware

Credit Hours: 4

Contact Hours: Class - 52
Lab - 52

FUNDAMENTAL TECHNICAL

TEL 105 - COMPUTER FUNDAMENTALS

Course Outline

Recommended Outline	After completing this section, the student will:	Hours	
		Class	Lab
INTRODUCING THE MICROPROCESSOR		26	0
Hardware	Identify microcomputer hardware and define associated terms.		
Software	Identify different types of software and define associated terms.		
Terminology			
PROGRAMMING THE MICROPROCESSOR		26	52
Program counter	Analyze central processing units.		
Branches and condition codes			
Stack pointer			
Machine instructions	Execute computer instruction		
Assembly programming			
Software development process			

THIRD QUARTER

Course Title	Credit Hours	Instructor	Period	Location	Class Hours	Lab Hours	Clock Hours
ENG 101 English	5	Smith Tanner	1	Telecom Class & Lab	40	12	52
TEL 110 Basic Telecom Concepts	4	Drexler	2	"	40	12	52
TEL 111 Data Communications	6	Drexler	3	"	40	12	52
TEL 112 Digital Telephony	6	Drexler	4	"	40	12	52
TEL 114 Microprocessor Interfacing	5	Drexler	5	"	40	12	52
TEL 115 Basic Analog Communications	3	Drexler	6	"	26	26	52
TOTALS	29				226	86	312

GENERAL CORE

ENG 101 - COMPOSITION AND RHETORIC

Course Overview

Course Description

Composition and Rhetoric focuses on a practical knowledge of written and oral communications. Topics include grammar and composition, conducting research, planning a report, documenting work, wiring technical reports, presenting oral reports, and using technical publications.

Competency Areas

Introducing technical communications
Conducting research
Planning a report
Documenting work
Writing technical reports
Presenting an oral technical report
Using technical publications

Credit Hours: 5

Contact Hours: Class - 52
Lab - 0

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GENERAL CORE

ENG 101 - COMPOSITION AND RHETORIC

Course Outline

Recommended Outline	After completing this section, the student will:	Hours Class	Lab
INTRODUCING TECHNICAL COMMUNICATIONS		13	0
Definition of technical writing	Define technical writing and explain the importance of technical communications for the technician.		
Basic principles of technical writing	Apply the basic principles of technical writing.		
Style			
Oral communication			
CONDUCTING RESEARCH		13	0
Preliminary steps	Identify the major steps one follows in conducting research.		
Assembling sources	Use card catalog and specialized reference guides to obtain sources.		
Using research results	Demonstrate note taking skills.		
PLANNING A REPORT		13	0
Outlines	Write a formal and informal outline for a report.		
Abstracts	Write an abstract for a technical report.		
Introductory summaries			

Recommended Outline	After completing this section, the student will:	Hours	
		Class	Lab
USING TECHNICAL PUBLICATIONS		13	0
Procedure manuals	Use appropriate technical publications to accomplish a task.		
User guides			
Specifications	Use appropriate reference materials in preparing a technical report.		

SPECIFIC TECHNICAL

TEL 110 - BASIC TELECOMMUNICATIONS CONCEPTS

Course Overview

Course Description

This course provides an introduction to the basic concepts of a telecommunications system. Topics include broadband and baseband signals, signal types, the modulation/demodulation process, noise, multiplexing, and transmission.

Competency Areas

Introducing frequency and bandwidth
Delineating signal types and characteristics
Describing methods of modulation and detection
Determining noise and distortion levels
Describing transmission modes
Multiplexing
Describing the characteristics of transmission media

Credit Hours: 4

Contact Hours: Class - 40
Lab - 12

SPECIFIC TECHNICAL

BASIC TELECOMMUNICATIONS CONCEPTS

Course Outline

Recommended Outline	After completing this section, the student will:	Hours	
		Class	Lab
INTRODUCING FREQUENCY AND BANDWIDTH		10	4
Baseband and broadband signals	Differentiate between baseband and broadband signals.		
Voice frequency spectrum	Identify the voice frequency spectrum.		
Shannon's Law	Apply Shannon's law.		
Sine waves			
Attenuation	Define attenuation.		
Nyquist theory	Describe the Nyquist theory.		
DELINEATING SIGNAL TYPES AND CHARACTERISTICS		8	2
Speech signals	Delineate the characteristics of speech, data, video signals.		
Data signals			
Video signals			

Recommended Outline	After completing this section, the student will:	Hours	
		Class	Lab
MULTIPLEXING		11	3
Multiplexing methods	Compare the different methods of multiplexing.		
Transmission hierarchies	Identify the various transmission hierarchies.		
Multiplex synchronization	Explain the process of multiplex synchronization.		
DESCRIBING THE CHARACTERISTICS OF TRANSMISSION MEDIA		11	3
Paired cable	Describe the advantages and disadvantages of different transmission media.		
Coaxial cable			
Waveguides			
Fiber optics			
Satellite			
Microwave			

SPECIFIC TECHNICAL

TEL 111 - DATA COMMUNICATIONS

Course Overview

Course Description

This course is designed to cover the basic principles of data communications and areas of applications such as communications between terminals and computers. Topics include local area networks, packet networks, and control of the telephone network.

Competency Areas

Introducing data communications
Transmitting bandwidths and impairments
Determining transmission codes
Installing modems
Describing the function of multiplexers
Describing the function of protocols
Identifying networks

Credit Hours: 6

Contact Hours: Class - 40
Lab - 12

SPECIFIC TECHNICAL

DATA COMMUNICATIONS

Course Outline

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
INTRODUCING DATA COMMUNICATIONS		8	0
Communication system overview	Differentiate between voice and data communications.		
Telephone networks	Identify the different types of telephone networks.		
Telephone circuits	Describe the function of telephone circuits.		
TRANSMITTING BANDWIDTHS AND IMPAIRMENTS		12	6
Channel bandwidth and frequencies	Identify the bandwidths and frequencies used in data communications.		
Transmission impairments	Perform bit error rate and other impairment tests on all data circuits.		
Error rates and their measurements	Analyze performance results on data circuits and recommend methods of increasing error-free throughput.		
Line conditioning and equalization	Describe line conditioning and equalization.		

Recommended Outline	After completing this section, the student will:	Hours Class	 Lab
DESCRIBING THE FUNCTION OF PROTOCOLS		8	6
Synchronous and asychronous transmission	Describe the difference between synchronous and asynchronous transmission.		
Binary synchronous communications	Define binary synchronous communications.		
Asynchronous protocol	Describe the function of the asynchronous protocol.		
Synchronous data link control (SDLC and HDLC)	Explain the function of a SDLC and an HDLC.		
IDENTIFYING NETWORKS		12	0
Evolution of networks	Identify the different types of networks and the advantages of each.		
Packet switching			
Local area network			
Value-added network			

SPECIFIC TECHNICAL

TEL 112 - DIGITAL TELEPHONY

Course Overview

Course Description

This course introduces students to the T1 digital carrier system and the signal itself. A technical description of T1 system is provided, and T1 services are compared to more common services.

Competency Areas

Introducing digital telephony
Synchronizing the T1 signal
Describing the technical aspects of T1
Installing customer premises equipment
Analyzing T1 transmission services
Describing related T1 services and enhancements

Credit Hours: 6

Contact Hours: Class - 40
Lab - 12

SPECIFIC TECHNICAL

DIGITAL TELEPHONY

Course Outline

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
INTRODUCING DIGITAL TELEPHONY		4	0
Historical overview of T1 technologies			
T-Carrier hierarchy	Identify the key elements in the T-carrier hierarchy.		
T1 terminology	Define key terms associated with T1		
T1 capabilities	Describe how T1's capabilities differ from the existing technology.		
SYNCHRONIZING THE T1 SIGNAL		12	3
T1 signal synchronization	Identify the three levels of signal synchronization and describe the function of each one.		
T1 framing formats	Describe each of the three generations of AT&T T1 framing formats.		
T1 channeling	Describe how the major channeling formats are used for dividing the 1.536 Mbps into channels.		
Alarms, loopbacks, and keep-alive signals	Define alarms, loopbacks, and keep-alive signals.		

Recommended Outline	After completing this section, the student will:	Hours	
		Class	Lab
Digital access and cross connect system (DACS)	Summarize the applications of digital access and cross connect system.		
Test equipment	Perform loop-back and network testing.		
	Perform bit error rate and other impairment tests on all circuits.		
Creating an end to end T1 configuration	Ensure timing synchronization is accomplished on T1 installations.		
ANALYZING T1 TRANSMISSION SERVICES		12	3
T1 services	Perform a tradeoff analysis between T1 and common voice grade or DDS services.		
T1 service performance parameters			
AT&T tariff structure for private lines services	Describe AT&T's pricing structure for its private line services.		
DESCRIBING RELATED T1 SERVICES AND ENHANCEMENTS		12	3
Introduction to T1 related services	Describe common carrier services and enhancements that augment or can be used in conjunction with T1 facilities.		
Customer controlled reconfiguration (CCR)			
Integrated services digital network (ISDN)	Describe the operation of ISDN.		

FUNDAMENTAL TECHNICAL

TEL 114 - MICROPROCESSOR INTERFACING

Course Overview

Course Description

This course provides students with a fundamental working knowledge of how microprocessors are used in signal processing. It consists of analog/digital operations and communications between terminals and computers.

Competency Areas

Introducing microprocessors in signal processing
Describing analog/digital operations
Preparing a database
Analyzing microcomputer applications
Using test equipment

Credit Hours: 5

Contact Hours: Class - 40
Lab - 12

FUNDAMENTAL TECHNICAL

TEL 114 - MICROPROCESSOR INTERFACING

Course Outline

Recommended Outline	After completing this section, the student will:	Hours	
		Class	Lab
INTRODUCING MICROPROCESSORS IN SIGNAL PROCESSING		18	0
Microprocessor signal handling	Describe how the microprocessor handles digital data for signal analysis.		
Transformation	Explain the process of transformation.		
Correlation			
Programmable signal processor			
DESCRIBING ANALOG/DIGITAL OPERATIONS		22	12
Analog/digital conversion	Describe analog/digital conversion techniques.		
Analog I/O connection	Describe the function of the analog I/O connection.		
Digital filtering	Delineate the advantages of digital filters.		

SPECIFIC TECHNICAL

TEL 115 - BASIC ANALOG COMMUNICATIONS

Course Overview

Course Description

This course focuses on developing skills in the installation and maintenance of analog and special purpose telephony circuits. Students are also introduced to maintenance activities required for station batteries.

Competency Areas

Differentiating among modulation techniques
Installing and maintaining analog circuits
Maintaining power systems

Credit Hours: 3

Contact Hours: Class - 26
Lab - 26

SPECIFIC TECHNICAL

BASIC ANALOG COMMUNICATIONS

Course Outline

Recommended Outline	After completing this section, the student will:	Hours	
		Class	Lab
DIFFERENTIATING AMONG MODULATION TECHNIQUES		15	6
DSB - FC	Differentiate among modulation Schemes with regard to the advantages and disadvantages of transmission.		
DSB - SC			
SSB			
ADC/DAC			
PCM			
TDR			
FDM			
INSTALLING AND MAINTAINING ANALOG CIRCUITS		11	20
Safety	Wire wrap circuit connections on office mainframe.		
Engineering practices to option circuit equipment	Option circuit equipment according to accepted engineering practice.		
Circuit equipment alignment and testing	Align and test circuit equipment for proper operation of circuit.		

FOURTH QUARTER

Course Title	Credit Hours	Instructor	Period	Location	Class Hours	Lab Hours	Clock Hours
TEL 116 Fiber Optics	5	Drexler	1	Telecom Class & Lab	40	12	52
PSY 100 Interpersonal Rel. & Professsional Dev.	3	Smith Tanner	2		52	0	52
Elective	5		3		52	0	52
TEL 113 System Installation & Testing	4	Bishop	4	Telecom Class & Lab	26	26	52
TEL 117 Traffic Analysis	3	Bishop	5	"	52	0	52
TEL 118 Network Design Fundamentals	4	Bishop	6	"	52	0	52
TOTALS	24				274	38	312

SPECIFIC TECHNICAL

TEL 116 - FIBER OPTICS

Course Overview

Course Description

This course introduces students to the fundamentals of fiber optics and explores the applications of fiber optics. Laboratory exercises give students hand-on experience with fiber optic devices.

Competency Areas

Introducing optical fiber principles
Identifying types of optical fiber
Describing characteristics of optical fiber
Identifying factors contributing to fiber loss
Describing fiber optic systems
Installing and maintaining fiber optic systems

Credit Hours: 5

Contact Hours: Class - 40
Lab - 12

SPECIFIC TECHNICAL

FIBER OPTICS

Course Outline

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
INTRODUCING OPTICAL FIBER PRINCIPLES		16	0
Optical fiber development	Describe the two methods of light propagation within optical fibers.		
Light propagation			
Total internal reflection			
Continuous refraction			
IDENTIFYING TYPES OF OPTICAL FIBER		8	0
Types of optical fiber	State the advantages or disadvantages of a type of optical fiber for a particular application.		
Fiber materials			
Methods of propagation			
DESCRIBING THE CHARACTERISTICS OF OPTICAL FIBER		16	12
Energy launching	Explain the importance of the critical angle of propagation and numerical aperture of a step index fiber.		
Numerical aperture, source area, source radiation pattern			
Radiation pattern versus fiber numerical aperture	List five general areas where the energy or information can be lost in a fiber optic link.		
Interface loss			

PSY 100 - INTERPERSONAL RELATIONS AND PROFESSIONAL DEVELOPMENT

Course Overview

Course Description

This course focuses on the behavioral aspects of people in business and industry. This course emphasizes the development of interpersonal skills and attitudes required to work effectively with others in a business or an industry environment.

Competency Areas

Identifying employment opportunities
Demonstrating appropriate work behavior
Communicating on the job
Maintaining working relationships with others
Maintaining good customer relations
Adapting to change

Credit Hours: 3

Contact Hours: Class - 52
Lab - 0

GENERAL CORE

PSY 100 - INTERPERSONAL RELATIONS AND PROFESSIONAL DEVELOPMENT

Course Outline

Recommended Outline	After completing this section, the student will:	Hours	
		Class	Lab
IDENTIFYING EMPLOYMENT OPPORTUNITIES		12	0
Job requirements	Identify job requirements.		
Educational opportunities	Investigate educational opportunities.		
Occupational opportunities	Investigate occupational opportunities.		
Resources for employment	Locate resources for finding employment.		
Job trends	Identify job trends.		
DEMONSTRATING APPROPRIATE WORK BEHAVIOR		20	0
Rules and regulations	Follow rules and regulations.		
Personal conduct	Exhibit dependability.		
	Demonstrate punctuality.		
	Exhibit pride and loyalty.		
	Recognize consequences of dishonesty.		
Responsibility to company	Complete assignments in accurate and timely manner.		
Problem solving skills	Demonstrate problem solving skills.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
ADAPTING TO CHANGE		20	0
Education	Demonstrate a willingness to learn.		
	Participate in continuing education.		
Work	Seek work challenges.		
	Demonstrate flexibility.		
Career goals	Adjust career goals to meet new situations.		

SPECIFIC TECHNICAL

TEL 113 - SYSTEM INSTALLATION AND TESTING

Course Overview

Course Description

This course focuses on the installation and testing of switching and multiplexing equipment. Extensive laboratory activities provide students with a wide variety of practical experience in installation and testing procedures for switching and multiplexing equipment.

Competency Areas

Describing the function of switching and multiplex equipment
Using CO or tandem switches
Installing and testing CO equipment bays
Maintaining high level switches
Installing and maintaining analog and digital multiplex equipment

Credit Hours: 4

Contact Hours: Class - 26
Lab - 26

SPECIFIC TECHNICAL

SYSTEM INSTALLATION AND TESTING

Course Outline

Recommended Outline	After completing this section, the student will:	Hours	
		Class	Lab
DESCRIBING THE FUNCTION OF SWITCHING AND MULTIPLEX EQUIPMENT		6	0
Switching equipment	Relate the function of switching equipment.		
Multiplex equipment	Describe the principles and operation of analog and data multiplex equipment.		
USING CO OR TANDEM SWITCHES		6	13
Call accounting retrieval	Perform call accounting retrieval functions.		
Database functions	Perform database functions.		
Low level PCBs	Execute replacement action on defective low level PCBs.		
Switch error reports	Analyze switch error reports to determine repair actions.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
INSTALLING AND MAINTAINING ANALOG AND DATA MULTIPLEX EQUIPMENT		12	13
FDM multiplex equipment	Install and maintain FDM multiplex equipment.		
Analog baseband level	Test analog baseband level and record results.		
Digital multiplex equipment	Install and maintain digital multiplex equipment.		
Problem diagnosis	Isolate problems to in-house and outside plant transmission equipment.		

SPECIFIC TECHNICAL

TEL 117 - TRAFFIC ANALYSIS

Course Overview

Course Description

This course provides students with the fundamentals of traffic analysis. Topics include reporting, rate tables, data analysis, and routings.

Competency Areas

Determining reporting mechanisms
Determining tables
Analyzing data
Determining traffic requirements
Routing

Credit Hours: 3

Contact Hours: Class - 52
Lab - 0

SPECIFIC TECHNICAL

TRAFFIC ANALYSIS

Course Outline

Recommended Outline	After completing this section, the student will:	Hours Class	Lab
DETERMINING REPORTING MECHANISMS		10	0
Bell usage	Determine reporting mechanism.		
Traffic metering			
Station Message Detail Recording (SMDR)			
DETERMINING TABLES		20	0
Poisson	Determine type of table to be used in the analysis.		
Erlang	Read and interpret rate tables.		
Retrial			
CCSS			
ANALYZING DATA		22	0
Busy hour load	Analyze traffic data using the busy hour, multihour, and averge-hour loads.		
Multihour load			
Average-hour load			

SPECIFIC TECHNICAL

TEL 118 - NETWORK DESIGN FUNDAMENTALS

Course Overview

Course Description

This course introduces students to the fundamental cocepts involved in designing a communication network. Emphasis is on understanding the factors affecting the design of a communication network.

Competency Areas

Introducing the network
Determining network components
Organizing the network
Determining a design
Identifying types of digital services

Credit Hours: 4

Contact Hours: Class - 52
Lab - 0

SPECIFIC TECHNICAL

NETWORK DESIGN FUNDAMENTALS

Course Outline

Recommended Outline	After completing this section, the student will:	Hours	
		Class	Lab
INTRODUCING NETWORK DESIGN		18	0
Input data collection	Describe input data collection and output data presentation.		
Output data presentation			
Design method	Describe the design of a small network.		
DETERMINING NETWORK REQUIREMENTS		16	0
Network elements	Identify the three types of network elements.		
Network flows	Analyze a network to determine traffic flows.		
Network requirements	Specify user requirements for a sample network.		
ORGANIZING THE NETWORK		13	0
Connectivity	Define connectivity as it is used in network design.		
Routing techniques	Differentiate among routing techniques.		

TOTAL HOURS

	Credit	Clock Hours
First Quarter	30	312
Second Quarter	19	312
Third Quarter	27	312
Fourth Quarter	26	312
Total to Graduate	102	1248

Instructor for 12 Months	Total Hours	Credit	Clock Hours
Bishop		26	364
Griffin		30	312
Drexler		29	312
Other		17	260
Totals		102	1248

SUPPLEMENT #3

BEN HILL-IRWIN TECHNICAL INSTITUTE
TELECOMMUNICATIONS CO-OP TRAINING PROGRAM
STUDENT INFORMATION AND INSTRUCTION

Qualifications.......................................1

Application Procedure..............................2

Travel Reimbursement...............................3

Stipend..3

Obtaining Payment...................................4

Tools..5

FORMS APPENDIX

Student Application...................................A

Academic Record Release ....B

Personal Risk...C

Employer's Weekly Report..............................D

Student Travel Expense Statement......................E

Instructor's Report...................................F

Tool Agreement..G

Memorandum of Understanding...........................H

BEN HILL-IRWIN TECHNICAL INSTITUTE
TELECOMMUNICATIONS CO-OP PROGRAM

A. QUALIFICATIONS

In order to qualify for the co-op program, an applicant must have earned at least a B average in the Telecommunications Diploma Program. An "A" in work ethics is required. The telecommunications lead instructor will approve or disapprove applications.

B. APPLICATION PROCEDURE

To apply for co-op program, the Student Application form must be completed promptly and returned to the co-op director. Applicants will be notified of the status of the application within fourteen days of the date of application.

In addition to the Student Application form, the Academic Record Release and the Personal Risk forms must be completed and returned to the co-op director. The Academic Record Release is required in order that academic information may be released to the co-op director and to any prospective employers. The Personal Risk form is needed to meet state requirements for travel to and from the co-op work location.

Applicants must also sign the Memorandum of Understanding, Appendix H.

C. STUDENT TRAVEL REIMBURSEMENT

Students will be reimbursed for one round trip per week from home to the work location city subject to the following conditions:

1. Only actual expenses will be reimbursed.
2. Reimbursement will be limited to $ 75.00 per week not to exceed $ 900.00 per co-op quarter.
3. Travel via common carrier must be supported by a copy of ticket attached to the travel form.
4. Use of personal vehicle will be reimbursed at $.21 per mile. Mileage traveled must approximate mileage as shown on road map.
5. Maximum number of round trips per co-op quarter will be limited to ten.

D. STUDENT STIPEND

Because of the high cost of temporary housing in metropolitan areas, a stipend will be paid to help defray living expenses if the co-op position requires the student to live away from his/her home.

The stipend will be $3.35 per hour worked for a maximum of eight hours per day, forty hours per week ($26.80 per day, $134.00 per week). The student must be on the job in order to receive the stipend. Stipend payments will be limited to 52 work days per co-op quarter.

E. OBTAINING PAYMENTS

1. TRAVEL

To obtain reimbursement of travel expenses the student must prepare the Student Travel Expense Statement provided by the school and return it to Ben Hill-Irwin Tech, attention Telecommunications Co-op Director.

2. STIPEND

To obtain payment of stipend the student must enter his/her name and social security number on a Employer's Weekly Report form and give the form to the co-op employer along with a pre-addressed Ben Hill-Irwin Tech envelope. Request the employer to complete and sign the form and return it promptly to Ben Hill-Irwin Tech, attention Telecommunications Co-op Director, so that credit for work experience may be awarded.

3. GENERAL

A supply of the travel and stipend forms and pre-addressed envelopes may be obtained from the Telecommunications Project Director.

Travel and stipend payments will be made approximately the 1st and 15th of each month and will be mailed to the student at the address shown on the Weekly Travel form. Travel and stipend forms that are received by the 5th of the month will be paid on approximately the 15th. Forms received by the 20th will be paid by the 1st of the following month.

E. OBTAINING PAYMENTS

1. TRAVEL

To obtain reimbursement of travel expenses the student must prepare the Student Travel Expense Statement provided by the school and return it to Ben Hill-Irwin Tech, attention Telecommunications Co-op Director.

2. STIPEND

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F. TOOLS

Students will be issued a kit of tools that meets most employers job and safety requirements. The kit will be issued as the student begins the co-op quarter. Students will be required to maintain the inventory of the kit by replacing all lost or damaged tools as required. The kits remain the property of Ben Hill-Irwin Tech until the student receives his/her diploma. The kit must be returned to Ben Hill-Irwin Tech in the event the student does not complete the entire program of instruction.

BEN HILL-IRWIN TECHNICAL INSTITUTE
TELECOMMUNICATIONS CO-OP PROGRAM
STUDENT APPLICATION

NAME_________________________________ SSN_____-____-_____
Print or Type

ADDRESS______________________________ TELEPHONE___________

____

____

I hereby apply for admission to the Ben Hill-Irwin Technical Institute Telecommunications Co-op Program. I understand that I must meet and maintain the standards of the program. I also understand that acceptance will not guarantee my placement with a co-op employer.

If offered co-op employment, I agree to the following:

A. Complete the work hours as required by the employer.

B. Abide by all rules and regulations of the employer.

C. A periodic evaluation of my work by the employer.

D. Provide an evaluation of the work experience as requested by the co-op director.

E. Advise the employer and the co-op project director of any physical, emotional or other problem which will interfere with the performance of my co-op assignment.

Signature_______________________________

Date__________________

A.

BEN HILL-IRWIN TECHNICAL INSTITUTE

ACADEMIC RECORD RELEASE

This is to authorize the release of my academic records to the co-op director, his/her administrative assistant, and any prospective employer or his/her designated representative either in person or by telephone. This authorization of release of information is for the purpose of my obtaining employment, and I fully understand the necessity of a potential employer's having access to this information.

____

Print or Type Name

____

Signature

____

Date

BEN HILL-IRWIN TECHNICAL INSTITUTE

TELECOMMUNICATIONS COOPERATIVE TRAINING PROGRAM

PERSONAL RISK

I fully understand that Ben Hill-Irwin Technical Institute will not supervise and/or inspect the job sites used in the Telecommunications Technology Cooperative Training Program. As a student at Ben Hill-Irwin Technical Institute, I fully accept the responsibility to assess the risks involved to me personally in placement with any company and/or business recommended to me by any employee, administrator and/or instructor at Ben Hill-Irwin Technical Institute.

____

Print or Type Name

____

Signature

____

Date

C

BEN HILL-IRWIN TECHNICAL INSTITUTE
TELECOMMUNICATIONS CO-OP PROGRAM
EMPLOYER'S WEEKLY REPORT

Student ______________________ Week ending (Sat) __________

Employer ____

Total work hours this week __________

Please note the student's performance and progress in each of the following areas. Scale: 5=excellent, 4=above average, 3=average, 2=below average, 1=poor.

(1) Dependability ______
(2) Job knowledge ______
(3) Quality of work ______
(4) Quantity of work ______
(5) Appearance ______
(6) Job Planning ______
(7) Attitude ______

Supervisor's remarks ______________________________________

____

____

____

Supervisor's signature __________________________ Date ______

Student's signature _____________________________ Date ______

Co-op Director signature ________________________ Date ______

Please file this report weekly. Mail to:

Ben Hill-Irwin Tech
Telecommunications Co-op
P. O. Box 1069
Fitzgerald, GA 31750

TELECOMMUNICATIONS COOPERATIVE PROGRAM
STUDENT TRAVEL EXPENSE STATEMENT (Please type or print)

For Period FROM __________ THRU

NAME		TITLE	WORK LOCATION (CITY)	(COUNTY)	(STATE)
SOCIAL SECURITY NO.	BUSINESS PHONE	RESIDENCE	(STREET) (CITY)	(COUNTY)	(STATE)

Mail check to ☐ Work Location ☐ Residence

DATE MONTH DAY	ORIGIN POINTS VISITED	DESTINATION	STARTING MILEAGE	ENDING MILEAGE	TOTAL MILEAGE	PERSONAL MILEAGE	CO OP MILEAGE
				TOTAL AMOUNTS			

DAY	COMMON CARRIER TAXI/LIMOSINE	AMOUNT	
TOTAL AMOUNT (Enter in appropriate line of expense section.) ATTACH RECEIPT			

"I do solemnly swear, under criminal penalty of a felony for false statements subject to punishment by fine of not more than $1,000 or by imprisonment for not less than one or more than five years, that the above statements are true and I have incurred the described expense and mileage."

Signature ______________________ Date __________

Co op Director ______________________ Date __________

Approving Authority ______________________
Print/Type Name/Title

TOTAL EXPENSE	AMOUNT	
MILES AT 21 CENTS PER MILE		
COMMON CARRIER		
TOTAL EXPENDITURES		

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BEN HILL-IRWIN TECHNICAL INSTITUTE
TELECOMMUNICATIONS CO-OP PROGRAM
INSTRUCTOR'S REPORT

Instructor:

This form is used to determine the student's qualifications for the co-op program. Please consult with the co-op director before completing.

STUDENT: ________________________________

FIRST QUARTER

	Academic Average	__________
	Work Ethics	__________

COMMENTS: ____

____

Student approved for the Co-op Program

___ Yes ___ No

Signature ____________________________

Date ________________

SECOND QUARTER

	Academic Average	__________
	Work Ethics	__________

COMMENTS: ____

____

Student approved for the Co-op Program

___ Yes ___ No

Signature ____________________________

Date ________________

1 of 2 pages

F

THIRD QUARTER Academic Average __________
Work Ethics __________

COMMENTS: ____

____

Student approved for the Co-op Program

___ Yes ___ No Signature ____________________________

Date ________________

FOURTH QUARTER Academic Average __________
Work Ethics __________

COMMENTS: ____

____

Student approved for the Co-op Program

___ Yes ___ No Signature ____________________________

Date ________________

2 of 2 pages

BEN HILL-IRWIN TECHNICAL INSTITUTE
TELECOMMUNICATIONS CO-OP TRAINING PROGRAM
TOOL AGREEMENT

I ________________________________ have been issued the tool kit
(Print or type full name)
decribed in the attached. I understand the kit is and will remain the property of Ben Hill-Irwin Tech until I receive my diploma. I agree to maintain the inventory of the kit replacing all lost or damaged items as required. I agree to return the complete kit to Ben Hill-Irwin Tech if I fail to complete the requirements of the Telecommunications Training Program.

________________________________ ________________
Student's Signature Date

G

BEN HILL-IRWIN TECHNICAL INSTITUTE
TELECOMMUNICATIONS CO-OP TRAINING PROGRAM
MEMORANDUM OF UNDERSTANDING

As a participant in the Telecommunications Technology Cooperative Program I understand that:

In order to receive my diploma I must successfully complete all academic quarters of the program;

The cooperative phase of the program consist of two quarters of on-the-job training;

Should I elect to accept full-time employment prior to completion of both on-the-job quarters of training I will not be eligible to receive stipend payments or travel expense monies from the date that full-time employment begins, and I will be required to return all tools provided me by Ben Hill-Irwin Tech;

Ben Hill-Irwin Tech is under no obligation to provide financial support to me during the on-the-job phases of my training beyond that stipulated under the terms and conditions of the program governing travel and stipends; and

I am responsible for travel, living and incidental relocation costs that exceed allowances paid by Ben Hill-Irwin Tech.

Student Signature

Date

H

SUPPLEMENT #4

For further information contact:

John Archer
Ben Hill-Irwin Tech
P.O. Box 1069
Fitzgerald, Georgia 31750
(912) 468-7487

Accredited by:
The Commission on
Occupational Education Institutions
Southern Association of
Colleges and Schools

Ben Hill-Irwin Tech does not discriminate on the basis of race, color, national origin, sex, or handicap in educational programs, activities, or employment.

Ben Hill-Irwin Tech

TELECOMMUNICATIONS COOPERATIVE PROGRAM

WHO WE ARE

Ben Hill-Irwin Technical Institute is a unit of the Georgia Department of Technical and Adult Education. We're located in central South Georgia halfway between Fitzgerald and Ocilla. We have enjoyed twenty years of vocational and technical service to central South Georgia. In doing so, we have provided training and education to over 40,000 area residents. AND WE GUARANTEE OUR GRADUATES.

TELECOMMUNICATIONS TECHNOLOGY

One of our eighteen diploma programs is the 12-month Telecommunications Technology Program. This program is designed to provide educational opportunities for individuals to obtain the knowledge, skills, and attitudes necessary to succeed as technicians in the telecommunications industry. Areas of study include AC/DC circuits, digital and solid state devices, computer fundamentals, and microprocessor interfacing. Specific technical courses include telephony skills, cable and telephone system installations, troubleshooting and repair, data communications, digital telephony, analog communications, fiber optics, traffic analysis, and network design.

COOPERATIVE EFFORT

After three quarters of classroom and laboratory training at Ben Hill-Irwin Tech, each student meeting the criteria for cooperative training is placed with a participating telecommunications company for on-the-job training and experience. After one quarter of training with the company, the student returns to Ben Hill-Irwin Tech for the final quarter of classroom training. The student then returns to the company for the last quarter of on-the-job training and, upon successful completion, graduates with a diploma in Telecommunications Technology.

OUR RESPONSIBILITIES

As a partner with a participating company, we select from the Telecommunications Technology Program students who desire to participate in the co-op program and place each with a participating company. We provide the student with a complete individual tool kit and provide financial assistance to help defray travel and living expenses associated with the work phase of the program. We also handle all administrative details, conduct liaison visits to the work site, and track the student's progress through the program.

YOUR RESPONSIBILITIES

We will expect a participating company to provide the student with work experience directly related to the duties and responsibilities of a telecommunications technician. We will also expect the company to periodically evaluate the student's on-the-job performance, and to pay the student an appropriate salary during the work phase.

ADVANTAGES TO YOU

There are many advantages in becoming a participating company. Here are a few. The company has the opportunity to observe and evaluate a student as a potential employee. The company, should it desire to hire the student upon graduation, gains an employee who has the entry-level skills to be productive from his or her first day of employment. Training time and expense is greatly reduced or eliminated. As the company and employee already "know" each other, the relationship is much more likely to be enduring. There is NO OBLIGATION for the company to hire a co-op student upon the student's graduation. There may also be tax advantages to the company. How can you lose?

WIN-WIN PROPOSITION

As you can see, Ben Hill-Irwin Tech's Cooperative Telecommunications Technology Program is a win-win proposition for everyone. It enables us to provide the industry with much needed and well trained technicians; it reduces training time and saves money for participating companies; and it ensures a steady supply of future technicians for industry. And our graduates will have found gainful employment in the occupation of their choice. WIN-WIN!

INTERESTED?

If you think your company might be interested in becoming a partner with us in this cooperative program, or if you would like to know more about the program, please call John Archer at (912) 468-7487. We will be more than happy to meet with you to discuss the program in detail. And remember — WE GUARANTEE OUR GRADUATES!

GRADUATE GUARANTEE

We have told you that our graduates are guaranteed. Here's how it works. The warranty guarantees that the student who has graduated from a diploma program has demonstrated the knowledge and skills and can perform each competency as identified in the industry validated Standard and Program Guide. Any program graduate who is determined to lack such competency shall be retrained at no cost to the employer or employee for tuition or instructional fees. The warranty will remain in effect for two consecutive years following the date of graduation and will be honored by any state technical institute which offers the same program. We will be pleased to offer more details about the warranty upon request.

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G
I
A

Georgia
Interconnect
Association

Officers
Carrie King Downs, President
Business Telephone Service, Norcross
Bob Kashey, Vice President
Oliver Electronics, Atlanta
Bill Truelove,Secretary
A-Com, Columbus
Brett Burke,Treasurer
Key-Four, Atlanta

News Tip

February 16, 1990

You are spending too much money training your new technicians!

Ben Hill-Irwin Tech, a public, tax assisted, technical school located in Fitzgerald, Georgia, has been awarded a U.S. Department of Education grant to train technicians for the interconnect industry.

These trained technicians will be available to you in October 1990 on a co-op basis after they have completed three of the four quarters required for graduation.

Two former employees of AT&T, Glenn Bishop and Dan Redus, administer the training and co-op programs at Ben Hill-Irwin Tech.

We urge all Interconnects to participate in this program, because it is an excellent source of trained technicians. Your participation will save your company expensive training costs.

For further information please contact Dan Redus or Kathy Welsh by calling (912) 468-7487 or writing to Ben Hill-Irwin Tech, P.O. Box 1069, Fitzgerald, GA 31750.

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TELECOMMUNICATIONS TECHNOLOGY

BEN HILL-IRWIN TECH

. . . Putting Georgia to Work

GREAT TRAINING . . . GREAT JOBS . . . GREAT FUTURE

Length of Program: 12 Months
Job Outlook: Endless Opportunities
Starting Salary Range: $310-$405 weekly
Future Earnings: $480-$600 weekly

The fastest growing industrial area in the United States is located in the Southeast, and Georgia is leading that growth.

With current expansion in the national telecommunications industry, an estimated 70,000 positions will need to be filled this year alone. Ben Hill-Irwin Technical Institute has achieved 100 percent placement of telecommunications technology graduates, and the industry is asking for more. This is a program that is on track for success.

As modern industry continues to expand throughout this region, more and more skilled people are needed. The Telecommunications Technology Program at Ben Hill-Irwin Tech is one of only three such programs in the state. As such, it has attracted statewide interest by industry as well as by prospective students. Good jobs at excellent salaries are constantly waiting to be filled.

Are You Programmed for Success?

Are you prepared to join an exciting, challenging industry with an exceptional future? Are you mechanically inclined? Do you enjoy working on technical projects? Does the prospect of learning the intricacies of computers, analog communications, fiber optics, and other telecommunications equipment appeal to you? If all of this sounds stimulating and exciting, telecommunications technology is a program you should look into. It can be your entry to a fascinating and rewarding future.

A "Real-Life" Learning Experience

The Telecommunications Technology Program at Ben Hill-Irwin Tech provides a "real-life" learning experience. The well-balanced schedule combines classroom instruction with hands-on technical training in 18 vital areas of telecommunications, which are designed to address the needs of the interconnect industry and provide students with the knowledge and the experience to enable them to perform successfully as highly skilled technicians. The Telecommunications Technology Program has been recognized by the Georgia Interconnect Association, GTE, AT&T, and numerous Interconnect companies.

Opportunities

Employment opportunities in telecommunications technology throughout the world are best in large metropolitan areas. This is true of Georgia as well, with Atlanta, Brunswick, and other major cities constantly in search of new personnel to fill vacancies in the expanding telecommunications industry. Employment opportunities continue to grow for cable installers, network technicians, and communications technicians. Graduates may advance to supervisory positions after a few years of experience. Graduates can also continue their education and advance to any career level they desire, such as design engineers, system analysts, or managers.

Training

Class sizes are limited to ten to twelve students, thereby allowing for extensive personal attention. Training incorporates hands-on work with electronic test gear, computers, and complex switching devices. Specific technical courses include telephone skills, cable and telephone system installations, trouble-shooting and repair, data communications, digital telephony, analog communications, fiber optics, traffic analysis, and network design. Graduates of the program will be capable of a wide range of activities including installing, trouble-shooting, maintaining, and repairing and replacing telecommunications systems and associated equipment.

Guest speakers from industry; owners of interconnects and engineering firms; and field trips to long-lines offices, trade shows, and work sites provide students with an advance inside look at the industry.

Upon graduation, all students are certified as key installers.

Ben Hill-Irwin Technical Institute • Perry House Road • P.O. Box 1069 • Fitzgerald, Georgia 31750 • (912) 468-7487

Counseling and Placement

Career counselors advise students throughout the Telecommunications Technology Program. Incoming job lists are distributed to students. Instructors, as well as our placement office, maintain close contact with businesses and institutions to locate openings and arrange interviews.

The institute's job placement service assists in matching graduates with interesting, good-paying jobs in area businesses.

Admission Requirements

Ben Hill-Irwin Tech welcomes students who are eager to learn. You must be at least 16 years of age. All students are required to complete an application for admission and take a basic pre-admission test.

Students who need developmental instruction in English or math will be placed in courses to prepare them for more advanced work.

Transfer students are encouraged to apply. They must be enrolled at a regionally accredited, postsecondary, diploma-granting institution.

Application

To apply, fill out an application form and send it, with a $15.00 nonrefundable fee, to:

Student Services
Ben Hill-Irwin Technical Institute
P.O. Box 1069
Fitzgerald, Georgia 31750

After the receipt of your application, we will schedule an assessment and advisement appointment to help determine the program for which you are best suited. Once results have been reviewed, your program instructor can assist you in selecting the necessary courses.

Fees and Expenses

Tuition and fees at Ben Hill-Irwin Tech are low. For Georgia residents, full-time tuition and lab fees are $150 per quarter. For half-time students, tuition and fees are $75 per quarter. A quarterly fee of $4 is required for insurance. Cost of books and supplies varies by program.

Financial Aid

Financial aid is available in several forms: grants, loans, scholarships, and work/study programs. If you need financial aid, it is best to apply early—as soon as you decide to attend Ben Hill-Irwin Tech. The financial aid officer will work with you to prepare the best financial aid package available to you. You may set up an appointment by calling the school.

Financial aid programs available:

- Job Training Partnership Program
- PELL Grant
- Georgia Student Incentive Grant
- Supplemental Educational Grant
- Vocational Rehabilitation
- Veterans Benefits
- Private Scholarships
- Work/Study Program

Career Evaluations

Career evaluations and counseling are available to those unsure of which program may be best for them. Interest inventories and visits to different program areas can be arranged to aid students in making good career decisions.

Program Outline

First Quarter
- D.C. Circuits
- A.C. Circuits
- Digital Devices
- Solid State Devices
- Algebraic Concepts
- Geometry and Trigonometry

Second Quarter
- Basic Telephone Skills
- Cable Installation
- Telephone System Installation
- Troubleshooting & Repair
- Computer Fundamentals

Third Quarter
- English
- Basic Telecommunication Concepts
- Data Communications
- Digital Telephony
- Microprocessor Interfacing
- Basic Analog Communications

Fourth Quarter
- Fiber Optics
- Interpersonal Relations and Professional Development
- Elective
- System Installation & Testing
- Traffic Analysis
- Network Design Fundamentals

GUARANTEE

The Georgia Department of Technical and Adult Education has developed curriculum standards with direct involvement of business and industry. These standards allow Georgia's 32 technical institutes to offer their business partners this guarantee:

"If one of our graduates who was educated under a standard program and his/her employer agree that the employee is deficient in one or more competencies as defined in the standards, the technical institute will retrain that employee at no cost to employee or employer."

No person shall on the basis of sex, race, national origin, religion, or handicap be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity under the direction of Ben Hill-Irwin Technical Institute. Any violation should be reported to Dr. Edgar Greene, President, Ben Hill-Irwin Technical Institute, Perry House Road, Fitzgerald, GA 31750.

Ben Hill-Irwin Technical Institute • Perry House Road • P.O. Box 1069 • Fitzgerald, Georgia 31750 • (912) 468-7487
A unit of the Georgia State Department of Technical and Adult Education
Working for Georgia's future

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SUPPLEMENT #5

TELECOMMUNICATIONS
COOPERATIVE TRAINING PROGRAM

EMPLOYER INFORMATION BOOKLET

BEN HILL-IRWIN TECHNICAL INSTITUTE
P.O. BOX 1069
FITZGERALD, GEORGIA 31750

CONTACT: BILL ELLIS
(912) 468-7487

BEN HILL-IRWIN TECHNICAL INSTITUTE
TELECOMMUNICATIONS COOPERATIVE TRAINING PROGRAM

CONTENTS

Overview....................................1

Program Description.........................2

Benefits to Industry........................3

Quality Assurance...........................3

Project Administration......................4

Summary.....................................4

Project Sequence............................5

Attachments

Training Agreement
Employer's Weekly Report
Employer's Final Report

OVERVIEW

Research indicates that telephone companies throughout the Southeastern United States have found that individuals making application for employment frequently possess the personal attributes that make good employees, but most often lack the training skills necessary to qualify for vacant or new positions. As a result, many companies must invest additional time and expense in equipping new employees with basic entry-level skills. In fact, a survey conducted by the national Telecommunications Education Council in 1986 indicated that the Southeastern United States has the greatest shortage of trained technicians in the entire field of telecommunications.

The Georgia Interconnect Association tells us that new technicians must be competently skilled to provide services to a wide variety of clientele to include manufacturers, hospitals, office buildings, apartments, businesses, and single family dwellings. Furthermore, the reorganization and changing environment of the telephone companies, and the services they are expected to provide, has exacerbated the lack of skilled technicians who are expected to install, trouble-shoot, maintain, and repair telephone systems. Considering the dynamically sophisticated switching mechanisms now in use, and the advent of fiber optical equipment, the need for trained technicians takes on even greater significance.

Ben Hill-Irwin Technical Institute (BHIT) recognizes the importance of this problem and in 1989 established the Telecommunications Technology Program. The program is designed to equip graduates with the skills necessary for entry-level employment with any telephone company. The program will help resolution of the problem, but will not resolve it. There still remains the problem of arranging a marriage between program graduates and the telephone companies. To that end BHIT has taken a second step toward problem resolution by winning a cooperative demonstration program grant from the US Department of Education. The grant will assist BHIT and participating telephone companies in establishing a cooperative effort for training telecommunications technicians, and for giving program participants on-the-job experience as a part of their formal training.

Advantages for the telecommunications industry, program participants, and BHIT are many. Participation in this effort by telephone companies will assure a regular supply of job applicants with entry-level skills; program graduates will gain invaluable on-the-job and classroom skills; and BHIT will have performed its obligation to serve the community and industry. Everyone wins. Following is a description of how the cooperative program will work.

PROGRAM DESCRIPTION

Jointly designed and developed by BHIT and the Georgia Interconnect Association, the cooperative program includes training to impart basic knowledge and practical application skills to student participants. The curriculum includes all necessary requirements for licensing as a low voltage technician, a working knowledge of switching equipment, hand tools, test equipment, and various equipment used in conjunction with complex telecommunications systems employed throughout the industry.

The program will consist of four quarters of academic training and two quarters of on-the-job training. Academic quarters will be conducted on campus at BHIT; on the job quarters will be conducted on site at various participating telephone companies. Students completing the six quarters of training, and other program requirements, will be awarded a Telecommunications Technology Diploma.

BHIT Responsibilities

BHIT will be responsible for:

Recruiting and testing applicants against strict criterion;

Providing academic and laboratory training in accordance with state approved standards;

Selecting cooperative program students from a pool of telecommunications technology students;

All administrative activities required to operate the program to include all forms, accounting operations, and monitoring requirements;

Payment of stipends to students to assist them with cost of temporary residence in metropolitan areas and travel expenses to and from the cooperative work sites;

Establishing and enforcement of program rules and procedures;

Provision of tool sets and safety equipment necessary to perform entry-level job requirements; and

A coordinator to perform liaison and interface tasks between BHIT and participating telephone companies.

Cooperative Industry Responsibilities

Cooperative Telephone Companies will be responsible for:

Providing supervised work experience directly related to the duties of a telecommunications technician;

An eight hour work day;

Reasonable hourly wage;

Completion of a periodic student evaluation and performance report (to be provided by BHIT);

Advise and offer program improvement information to BHIT; and

Reception of an occasional visit by the BHIT project director to discuss student progress and program concerns.

BENEFITS TO INDUSTRY PARTICIPANTS

There are several advantages for industry in participating in a cooperative training program with BHIT, as opposed to relying on unskilled worker applicants, or graduates from a non-cooperative program of instruction. Following are a few of the more important advantages.

Graduates of the cooperative program will have gained work experience that employers desire.

Graduates will have had the opportunity to learn first-hand that their chosen field of work was a correct choice. Employee retention under these circumstances is greatly enhanced.

Many good students will be recruited based on the income generated by their participation in the program.

Employers will be able to reduce new employee training cost and time.

Employers will have the opportunity to evaluate student participants, in a realistic work setting, for possible future employment.

Employers will have the opportunity to improve the cooperative program through feed back to BHIT.

QUALITY ASSURANCE

Assurance of program quality and industry relevance will be the responsibility of the project advisory committee. The committee will meet periodically to assess project progress and to make recommendations for improving the project. The committee will also bear the responsibility of overall project evaluation. The committee consists of representatives from the telecommunications industry and BHIT.

PROJECT ADMINISTRATION

As mentioned above, administration of the project, with the exception of two requirements already described, will be handled by BHIT. For a more thorough understanding of the project, copies of principal administrative forms and procedures have been appended and are listed at the conclusion of the document.

SUMMARY

The Telecommunications Cooperative Training Program is a high technology demonstration project funded in part by a grant from the US Department of Education. BHIT and the Georgia Interconnect Association designed the cooperative training program as an outstanding opportunity for participants to become licensed as a low voltage and telecommunications technician. The program will provide the telecommunication industry with entry-level workers competent in the installation and maintenance of various types of telecommunications systems. The curriculum will include, in part, cable splicing, fiber optics and switching mechanisms. The project is a "win-win" proposition for industry, the student, and BHIT.

PROJECT SEQUENCE

FIRST QUARTER 1990

United States Department of Education approves grant for the telecommunication co-op program.

All students now enrolled in telecommunications training at BHIT are eligible to apply for admission to the co-op program. These students are referred to as Group A and B.

SECOND QUARTER 1990

New students,Group C, enroll in telecommunications training at BHIT.

Students of Group A and B applied for admission to co-op program.

THIRD QUARTER 1990

Group D students enroll in telecommunications training at BHIT.

Qualified students of Group A and B are available for interviews with cooperating employers.

Students of Group A and B and their prospective employers sign training agreements for fourth quarter.

Group C students apply for admission to co-op program.

FOURTH QUARTER 1990

Group A and B students participate in on-the-job training.

Employers prepare evaluation forms.

Qualified students of Group C are available for interviews with cooperating employers, and both sign training agreements for first quarter of 1991.

FIRST QUARTER 1991

Students of group C participate in on-the-job training.

Employers prepare evaluation forms.

Group A and B students return to BHIT for classroom training.

Students of Group A, B, and D are available for interviews with cooperating employers. They sign training agreements for second quarter of 1991.

SECOND QUARTER 1991

Group A and B participates in second and final quarter of on-the-job training. Group D participates in first quarter of On-the-job training.

Employers prepare evaluation forms.

Group C students return to BHIT for fourth quarter of classroom instruction.

This will end the co-op project unless the U.S. Department of Education approves an extension.

Students of Group C available for interview. They and cooperative employers sign training agreement for third quarter of 1991.

THIRD QUARTER

These events depend on the approval of an extension of the project.

Group C students begin their second quarter of on-the-job training.

TRAINING AGREEMENT

The training agreement outlines the basic responsibilities of both BHIT and the cooperating employer. The agreement may be modified to suit special situations

The student application form covers the students training agreement.

BEN HILL-IRWIN TECHNICAL INSTITUTE
TELECOMMUNICATION COOPERATIVE TRAINING PROGRAM
MEMORANDUM OF AGREEMENT

This agreement is made and entered into this ___________ day of

_______________, 19____ between Ben Hill-Irwin Technical Institute,

hereinafter referred to as "BHIT", and ____________________________

hereinafter referred to as the "Employer".

BEN HILL-IRWIN TECH AGREES TO:

A. Recruit and test applicants against strict criterion.

B. Provide academic and laboratory training in accordance with state approved standards.

C. Provide all administrative activities required to operate the program including all forms, accounting operations, and monitoring requirements.

D. Establish and enforce program rules and procedures.

E. Provide a project director to perform liaison and interface tasks.

THE EMPLOYER AGREES TO:

A. Provide a supervised work experience directly related to the duties of a telecommunications technician.

B. Provide a forty hour or more work week for ten weeks.

C. Provide a reasonable hourly wage.

D. Complete periodic student evaluation reports (forms to be provided by BHIT).

E. Advise and offer program improvement information to BHIT.

F. Allow an occasional visit by BHIT personnel to discuss the students progress and co-op project concerns.

G. Consider the student as a temporary employee and grant him/her all rights and privileges due such an employee by state and federal labor laws.

H. Fully inform the student of all pertinent rules and regulations of the work place.

BHIT AND EMPLOYER AGREE:

A. The employer will retain all rights of dismissal.

B. Release of academic records will be with the consent of the individual student concerned.

C. This agreement may be terminated by either party upon thirty (30) day written notification by either party.

____
BHIT Project Director

____
Date

____
Employer

____
Date

BEN HILL-IRWIN TECHNICAL INSTITUTE
TELECOMMUNICATIONS CO-OP PROGRAM
STUDENT APPLICATION

NAME________________________________ SSN_____-____-_____

Print or Type

ADDRESS______________________________ TELEPHONE___________

____

____

I hereby apply for admission to the Ben Hill-Irwin Technical Institute Telecommunications Co-op Program. I understand that I must meet and maintain the standards of the program. I also understand that acceptance will not guarantee my placement with a co-op employer.

If offered co-op employment, I agree to:

A. Complete the work hours as required by the employer.

B. Abide by all rules and regulations of the employer.

C. A periodic evaluation of my work by the employer.

D. Provide an evaluation of the work experience as requested by the co-op director.

E. Advise the employer and the co-op project director of any physical, emotional or other problem which will interfere with the performance of my co-op assignment.

Signature______________________________

Date__________________

EMPLOYERS WEEKLY REPORT

The Weekly Report form allows Ben Hill-Irwin Tech to track the progress and performance of the student during the on-the-job quarter.

The student will enter his/her name and social security number on the form and give it to his/her supervisor on a weekly basis. The employers designated representative, usually the students direct supervisor, should complete the form, review it with the student and mail promptly to Ben Hill-Irwin Tech.

BEN HILL-IRWIN TECHNICAL INSTITUTE
TELECOMMUNICATIONS CO-OP PROGRAM
EMPLOYER'S WEEKLY REPORT

Student________________________________ SSN_____-____-_____

Week Ending (Sat)________________________

Hours of Attendance:

Sun _________ Tues _________ Thur _________ Sat _________

Mon _________ Wed _________ Fri _________

Is the students progress and performance satisfactory at this point in terms of the following: (Circle Yes or No)

(1) dependability?	Yes	No
(2) job knowledge?	Yes	No
(3) quality of work?	Yes	No
(4) attitude?	Yes	No

Remarks ____

____

Has this report been discussed with the student? Yes No

Employer________________________________

Address_________________________________

____

____

Supervisor's
Signature_______________________________

Telephone_______________________________

Date____________________________________

Notice: Please file this report with Ben Hill-Irwin Tech weekly.

Mail to

Ben Hill-Irwin Tech
Telecommunications Co-op Director
P.O. Box 1069
Fitzgerald, GA 31750

EMPLOYERS FINAL EVALUATION

The final evaluation report provides an overall view of the student-trainee's knowledge and performance in the general and technical areas covered by the telecommunications training at BHIT. The report will aid in evaluation of the training provided.

The evaluation form should be prepared by someone familiar with the student-trainee's work, usually his/her direct supervisor.

BEN HILL-IRWIN TECHNICAL INSTITUTE
TELECOMMUNICATIONS COOPERATIVE TRAINING PROGRAM
EMPLOYER'S FINAL EVALUATION FORM

Co-op Student Name________________________________

Employer____

Please evaluate the student-trainee's knowledge and performance in the following areas comparing him/her with others of comparable academic and experience level and with other personnel assigned to the same or similar classified jobs. (Scale 5-excellent, 4-above average, 3-average, 2-below average, 1-poor)

AREA	KNOWLEDGE	PERFORMANCE
English		
Mathematics		
Interpersonal Relations		
AC and DC Circuits		
Digital and Solid State Devices		
Computer Systems		
Telephony Systems		
Microprocessor Interfacing		
Fiber Optics		
Telecommunications System Installations		
Telecommunications System Maintenance		
Traffic Analysis		
Network Design		

Remarks

Evaluator (Print or Type Name)

Signature

Date

Please prepare this report near the end of the student trainee's work experience and return to:

Ben Hill-Irwin Tech
Telecommunications Co-op Director
P.O. Box 1069
Fitzgerald, GA 31750

SUPPLEMENT #6

MINUTES
TELECOMMUNICATIONS ADVISORY COMMITTEE

The advisory committee for the Telecommunications Cooperative Training program met for a working luncheon on November 13, 1990.

All seven cooperating companies were invited to attend the meeting.

Those attending were:

Mr. Tom Jones-President of Georgia Interconnect Association
Mr. Bobby Hobby-Southern Telephone Contractors
Mr. John Archer-Director of Institutional Advancement, BHIT
Mr. Glenn Bishop-Telecommunications Instructor, BHIT
Mr. Dan Redus-Project Director, BHIT

Mr. Archer outlined the history and purpose of the cooperative program. The industry representation agreed that all are suffering from a profit squeeze in the small telephone system market. Companies serving this market cannot afford to employ a sales force. They must rely on the technicians to sell. They requested increased training in interpersonal relations and sales techniques. Mr. Jones will formally request this needed training in a letter to the Georgia Department of Technical and Adult Education.

The committee reviewed the following measures to formulate an evaluation of the program:

> Number of trainees entering program - all students of the telecommunications department applied to enter the co-op program. Seventeen applied for the fourth quarter of 1990 and seven have applied for the first quarter of 1991.
>
> Number and percent of trainees placed with employers - 15/88%
> Number and percent of trainees retained after 6 weeks - 12/80%
> Percent employed at above minimum wage - 100%
>
> Supervisor evaluation of trainee performance - all 12 trainees remaining in the program are rated satisfactory or higher.

Mr. Hobby requested that the employer weekly evaluation form be simplified.

The committee discussed the reasons for the three trainees dismissed from the program: One trainee quit work without stating a reason; another was asked to resign due to an attitude that prevented his working with others; the third was dismissed for falsifying reasons for absence from the job.

Mr. Jones pledged the assistance of the Georgia Interconnect Association in the effort to obtain the enlistment of additional Interconnect companies into the cooperative training effort. He will include an article on the program in the next newsletter to the association's membership.

The agenda of this meeting will be discussed with as many of the non-attending companies as is practical and their comments will be attached to these minutes.

With nothing else to be discussed, the meeting was adjourned.

Signed,

Dan Redus

Dan Redus, Co-op Director

The following are comments made by those committee members that were unable to attend the meeting:

Mr. Lee Vann-Harbei Communications: He would like to see the weekly report form simplified. He is satisfied with the two students presently in his employ. The student that he asked to resign was adequately trained in telecommunication theory and methods. However, he lacked the ability to get along with other employees. Mr. Vann suggested we improve training in the area of interpersonal relations.

Mr. J. R. Thomas-Atlantic Telcom: Mr. Thomas is satisfied with the two students now employed by Atlantic Telcom. He feels the training they received was adequate. His company will not be able to increase its participation in the program unless business conditions improve. The general fear of a recession has hurt growth.

Mr. Danny Sanders-Sanders Communications: Mr. Sanders has no student trainees employed at the present; therefore, he had no comment on the program. He doubts that he will be able to fulfill his commitment to employ a student in the first quarter of 1991 due to decrease in business activity.

Mr. Todd Tolbert-A-Action: Mr. Tolbert says that he supports the program; however, unless volume of business improves he will be unable to participate in first quarter of 1991.

Mr. Dean Burke-Key Four Inc.: Mr. Burke is very pleased with all four students presently employed. He will recommend the program to other companies. Key Four will be able to continue to employ these students during the first quarter of 1991 but probably will not be able to employ additional students.

Signed,

Dan Re

Dan Redus, Co-op Director

MINUTES OF THE TELECOMMUNICATIONS TECHNOLOGY

ADVISORY COMMITTEE MEETING

BEN HILL-IRWIN TECHNICAL INSTITUTE

March 26, 1991

The meeting of the Telecommunications Technology Advisory Committee was held on Tuesday, March 26, 1991. In attendance were Jim Thomas, Atlantic Telcom; Tommy Thomas, Atlantic Telcom; Donald Griffin, instructor; David Drexler, instructor; Bill Ellis, Co-op Director; and Glenn Bishop, instructor. Bobby Hobby, Southern Telephone Contractors, was not present to preside as chairman. Glenn Bishop stood in for Mr. Hobby as chairman.

The meeting was called to order by Glenn Bishop at 7 p.m., and the minutes from the September 26, 1990, meeting were read and approved.

Under new business Mr. Hobby was elected to serve a new term as chairman. Mr. Drexler was elected as secretary. Mr. Bishop opened the floor for discussion of recommendations of course offerings, curriculum content, addition or deletion of courses, equipment and instructional materials. Mr. Jim Thomas stated that we should do more hands-on work expressly with cable connectors (Amp Champs) and cable punch downs. Mr. Tommy Thomas stated that a need for having students perform more generic terminology where features are concerned in PBX and electronic key systems needed to be addressed in TEL 113. He stated also that he would be willing to donate some equipment for this area of training.

The consensus was that the course changes taking place within the state consortium were on target and that we would strive to make every effort to include new technology in our courses, as soon as practical. Because of a lack of time and a need to troubleshoot a PBX in the lab, it was unanimously approved that the assessment of instruction and equipment surveys would be faxed in on the following day.

The meeting adjourned at 8:45 p.m.

Respectfully submitted,

Glenn Bishop
Instructor

GWINNETT TECHNICAL INSTITUTE
TELECOMMUNICATIONS TECHNOLOGY
OCCUPATIONAL ADVISORY COMMITTEE
FRIDAY, MARCH 22, 1991

CHAIRPERSON:	JACK DOAN
VICE-CHAIRPERSON:	MIKE MITCHELL

MEMBERS PRESENT:
DAVID BREXLER
GLENN BISHOP
BILL FRAZIER
NANCY DANIEL
MIKE MITCHELL
RANDY SATTERLEE
JACK DOAN
MACK DAVIS *** NEW MEMBER ****
JIMMY PURCELL

NEXT MEETING: FRIDAY, JUNE 21, 1991 at Shoney's restaurant on Pleasant Hill road next to I-85 Interstate at 7:30 am.

1. Chairperson, Jack Doan opened the meeting at 7:30 am in the Shoney's restaurant conference room.

2. Committee members reviewed the following information:

   * Spring quarter schedule ** 4-2-91 thru 6-13-91
   * Summer quarter forecast ** 7-2-91 thru 9-17-91
   * OUTLOOK Publication " Spring Issue "
   * Program Curriculum
     A) ASSOCIATE IN APPLIED TECHNOLOGY - 0 21.
     B) DIPOLMA PROGRAM
   * Gwinnett Tech Business Brochure with a Telecommunication's student picture on the second page.
   * Ben Hill - Irwin Technical Institute Telecommunication's Program Outline.

3. Minutes from last meeting discussed and action items were followed with updates.

4. Special Thanks to Glenn and David for providing information regarding history on the Ben Hill - Irwin Tech Telecommunication program to the committee. As indicated, both program Instructors and Committee Representatives will continue to share resources, working together as one " TEAM ".

5. Bill Frazier asked the committee for volunteers to meet with Telecommunications companies to discuss needs, potential employment opportunities (New Grads), equipment donations, program $ contribution and open invitation to work with the school developing industry educational requirements.

Project Leaders: JACK DOAN, NANCY DANIEL

6. Committee agreed to develop list of major Telecommunications firms as targets for program invovement which includes contact personnel.

   Action: Complete list by next meeting date....

7. Possible VIDEO TAPE program for TEL-106, members very positive on the idea.

8. Members agreed that industry involvement must remain #1 OBJECTIVE which will offset tight program budget constraints.

9. Program instructors obtained VALUABLE equipment from the Federal/State surplus store ...... at no cost ......

10. Suggestions made to design more flexilility into the programs to meet changing demands with additional emphasis in Data Communications.

11. Consortium Update -

    Program directors from both schools provided input about updating The Curriculum. Due to the needs for extensive revisions in all courses in the program, The State Department of all Technical and Adult Education agreed to allow revisions to occur in the normal way rather than requiring immediate revisions. It is felt that the 18-23 course diploma program should be alike at both institutions and focus on The CPE Business. The degree program at Gwinnett Tech will continue to focus on higher level aspects of the industry.

    Revisions to each course will be completed jointly, begining immediately with TEL-106. It will be piloted and sent for inclusion in The Curriculum Guide. An update will be provided at the next advisory committee meeting.

12. Special interest seminars (Low Voltage) [illegible]ing additional revenue into the program allowing future equipment expansion.

13. Ideas collected on how this committee can get corporate DONATIONS into the program. Example given by member that General Telephone made a large contribution ... HOW CAN GET OTHER COMPANIES TO FOLLOW !

14. Editorial comment ... Bill Frazier
    I would like to make special welcome to our newest member on the committee MACK DAVIS from Georgia Tech. Also, I want to thank each dedicated committee member for all the efforts put forward to make this program NUMBER ONE in the state.

15. Don't forget to mark your calendar for the next advisory meeting
    FRIDAY, JUNE 21, 1991

WE NEED YOUR HELP !!!!!!!!

MINUTES OF THE TELECOMMUNICATION ADVISORY COMMITTEE MEETING
JUNE 13, 1991

The meeting of the Telecommunications Technology Advisory Committee was held on Thursday, June 13, 1991. In attendance were Donald During - General Telephone, Bill Ellis - telecommunications co-op director and Glenn Bishop - telecommunications instructor. Mr. Bobby Hobby of Southern Telephone Contractors was contacted by telephone during the meeting.

The meeting was called to order by Glenn Bishop at 7:20 p.m. and the minutes from the March meeting were read and approved. Under new business Mr. Hobby said that because of his health he could not complete the term as chairman. Mr. Don During was elected to chair the committee. Mr. During opened the floor for discussion of the following topics: The instructional philosophy, purpose, goals, and objectives of the program. The committee agreed that a complete survey from industry was necessary to evaluate what the course content should be. Mr. During suggested that Ben Hill-Irwin Tech should develop a package for industry to evaluate. It was agreed that Mr. Bishop would develop this package and present it to Mr. During for approval before the next advisory meeting.

This package and its evaluation would be used to formulate the short- and long-term plans for the program and the institution. The information obtained would be used to develop the new curriculum changes through the program consortium process in June 1992.

As annual program evaluation forms were considered to be lengthy and time-consuming for such a meeting, they were distributed to will be returned with the evaluation package to be developed. It was also suggested by Mr. During that more information about the progress of the program should be publicized through industry publications.

Mr. Ellis gave a detailed report on the status of the co-op participation from students and industry. It was suggested that the students applying for the Telecommunication Program be required to endorse a document that explained the necessity to relocate from the local area or state. Mr. Ellis suggested that BHIT should put into a database all available industry information on companies that are potential employers.

After a tour of the lab and classroom areas, the meeting adjourned at 9:20 p.m.

Respectfully submitted,

Glenn Bishop
Instructor

MINUTES OF THE TELECOMMUNICATIONS ADVISORY COMMITTEE MEETING
September 19, 1991

The meeting of the Telecommunications Technology Advisory Committee was held on Thursday, September 19, 1991. In attendance were Donald During, General Telephone; Skip Dawkins, General Telephone; Bill Ellis, Telecommunications Co-Op Director; Tommy Thomas, Atlantic Telcom, Inc.; Andy Paulk, instructor; and Glenn Bishop, instructor.

The meeting was called to order by Donald During at 7 p.m., and the minutes from the June meeting were read and approved. Mr. Dawkins was officially welcomed back to the committee. Under new business the program evaluation requested by Diane Collins was completed and summarized. The instructor evaluation also was reviewed.

The consensus of the committee was:

1. that the students should be required to do job interviewing training, including mock interviews stressing working as a team, knowing the chain of command, and using other basic interview skills.
2. that the school should advertise our product (the student) in industry publications.
3. that the instructors should be allowed to visit industry more often on a regular basis.
4. that a scholarship fund should be organized, asking industry to sponsor students or donate for scholarships to be awarded by the Foundation Financial Aid Committee.

Each advisory committee member was allowed to address the chair on various subjects, and each member was answered satisfactorily by one of the instructors.

After a tour of the lab and classroom areas, the meeting adjourned at 8:30 p.m.

Respectfully submitted,

Glenn Bishop
Instructor

MINUTES OF THE TELECOMMUNICATIONS TECHNOLOGY ADVISORY COMMITTEE MEETING

September 26, 1989

The Telecommunications Technology Program held its semi-annual Craft Advisory Committee meeting on September 26, 1989. Members present were Skip Dawkins of GTE, Joe Rogers of AT&T, and Roger Hobbs of Martronics. Instructors present were Donald Griffin and Glenn Bishop.

The meeting was called to order by Glenn Bishop acting as chairperson for Donald During. Donald Griffin acted as secretary and assumed the vacant position of secretary for the committee.

Glenn reviewed the minutes from the meeting of March 21, 1989. They were approved as read.

Suggestions from the March 21 meeting, which were adopted and implemented, were reported as follows:

1. Telecommunications terminology basics were established in TEL 106 Fundamental Telephony Skills and in English 101 Composition and Rhetoric, the latter in the form of a glossary the student must master.
2. Fax machines and modems have been purchased and are incorporated into TEL 110 Telecommunications Concepts and TEL 111 Data Communications.
3. A color blindness test has been scheduled for the first day of attendance for beginning students and has been administered to the present classes.

The following suggestions were reaffirmed as long-range plans:

1. A fiber MUX unit should be purchased.
2. A pole climbing class should be set up.

Under new business, the committee covered the following:

1. It reviewed the program guide and accepted changes.
2. It discussed exit points from the program and decided to retain them as they are, with consideration of implementing an evening course for cable installers.
3. It discussed PC link as an avenue to computer services for class use in TEL 112 Digital Telephony.

4. It suggested, as additions to the course, training material in the form of course outlines and safety requirements and instruction to enable students to meet license requirements for driving heavy vehicles.

5. It discussed at length low voltage licensing. The committee agreed to incorporate this training into the curriculum as soon as the requirements are met by each student.

6. Also, it suggested an evening class. The title and subject were solicited from the committee. It was agreed that the course should be a continued offering on a rotation basis in four fields: pole climbing (1 quarter; 90 hours), low voltage (1 quarter; 90 hours), marketing (1 quarter; 90 hours), and cable splicing (2 quarters; 180 hours).

   The first three courses would need approval of the Dean of Continuing Education, and the cable splicing class would need help with material from industry. It was agreed that Glenn Bishop and Donald Griffin would start these courses as soon as one or the other of the courses could be implemented.

7. The committee decided that security systems should be an integral part of the curriculum, and Roger Hobbs agreed to assist in the development of this phase.

Before bringing the meeting to a close, the committee toured the new lab and agreed that it was developing into a facility which conforms to industry standards for education. The committee also agreed to continue to locate equipment and training aids for the program.

Respectfully submitted,

Glenn Bishop, Instructor

SUPPLEMENT #7

Ellis.

BEN HILL - IRWIN TECHNICAL INSTITUTE

P.O BOX [illegible] • FITZGERALD, GEORGIA 31750 • PHONE 912/468-7487

October 10, 1991

Mr. Robert Miller
Office of Vocational and Adult Education
US Department of Education
Swilzer Building, Room 4512
400 Maryland Avenue, S.W.
Washington, D.C. 20202-7442

Re: V199A00014

Dear Mr. Miller:

Enclosed find the highlights of activities involving the above referenced high technology demonstration project during the third quarter of 1991.

Sincerely,

William L. Ellis

William L. Ellis
Project Director

tdw

Enclosures

A unit of the Georgia Department of Technical and Adult Education
"Working For Georgia's Future"

HIGHLIGHTS OF THIRD QUARTER 1991 ACTIVITIES

JULY

The completed video tape was received in final form and copies were reproduced for dissemination in accordance with the project plan.

Four students were placed in co-op this month after completing three or four quarters of academic training. Three others began their second quarter of co-op, making a total of seven in co-op. Three other students, who were approved for participation in the program, elected to enroll in the fourth academic quarter. One student who had completed the third academic quarter had to withdraw for financial reasons. In summary, there was a total of ten students still in training at the beginning of the quarter.

AUGUST

As part of the dissemination effort, on August 6, 1991, the project director gave a presentation to all Vice Presidents for Instruction at the annual meeting of the Georgia Vocational Association. The presentation included a twenty minute overall summary of the program, showing of the video and fielding questions. In addition, written copies of the project description and brochures were distributed.

Received the survey material from the Department of Education to evaluate those projects funded under the Cooperative Demonstration Program (High Technology). Completed the survey and returned it to WESTAT Corporation, minus the charts which cannot be completed until after the end of the project.

The project director and the lead instructor visited two of the cooperating companies in the Atlanta area to evaluate the performance of the students and to discuss instructional changes to meet the needs of industry.

SEPTEMBER

The student who had to withdraw from school in July because of financial problems was hired by a telecommunications company in Atlanta and was permitted to re-enroll in school as a co-op student.

Three more students completed two quarters of co-op at the end of this month. One returned for the fourth academic quarter and the other two, having completed all academic work, stayed on the job with their employer.

The project director has been coordinating with the Polaris Corporation concerning the final evaluation.

As of the end of this quarter, 32 students have been accepted in the telecommunications co-op program; 22 have been placed and have completed at least one quarter of co-op; 15 have completed two quarters of co-op; 10 elected not to participate in co-op or were unable to be placed for various reasons.

The project director accompanied two students to Tallahassee, Florida to introduce them to previous industry contacts and to allow them to interview and/or complete job applications.

The project director and the lead instructor visited three cooperating companies in the Atlanta area. Recommended changes to the curriculum were discussed and industry representatives presented evaluations of co-op students.

The Telecommunications Advisory Committee met on September 19, 1991 with six members present.

BEN HILL - IRWIN TECHNICAL INSTITUTE

P.O. BOX 1069 * FITZGERALD, GEORGIA 31750 * PHONE 912/468-7487

July 23, 1991

Mr. Robert Miller
Office of Vocational and Adult Education
US Department of Education
Swilzer Building, Room 4512
400 Maryland Avenue, S.W.
Washington, D.C. 20202-7442

Re: V199A00014

Dear Mr. Miller:

Enclosed find the highlights of activities involving the above referenced high technology demonstration project during the second quarter of 1991.

Sincerely,

William L. Ellis
William L. Ellis
Project Director

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Enclosures

A unit of the Georgia Department of Technical and Adult Education
"Working For Georgia's Future"

HIGHLIGHTS OF SECOND QUARTER 1991 ACTIVITIES

APRIL

Three students from group A/B completed two quarters of co-op and returned for the final quarter of class. Seven Group A/B students opted to stay on the job. Written tests were mailed to those students who stayed on the job to allow them to demonstrate that they had attained the additional competencies required for a diploma. One other student from this group had been called to active duty during Desert Storm and returned to complete his forth quarter of class.

Four Group C students and one Group A student completed the forth quarter of class/lab and three of the five were placed in co-op this month. One student had a part-time job, in an unrelated field, while attending class and accepted a full time assistant manager position after completing all class work. The other student interviewed several other places but was not accepted.

Seven students from group D completed their third quarter last month and six opted to stay in class this quarter. one was placed in a co-op position.

Received the approval for the revised budget request which was submitted January 25,1991.

Submitted a request for a no cost time extension (NCTE) of three months.

Project Director made trips to Atlanta and Tallahassee to line up co-op companies.

MAY

One additional student from group C was placed in co-op making a total of four out of five placed.

Received approval for the no cost time extension (NCTE) through December 1991.

JUNE

Nine Group A/B students have completed all classroom and co-op requirements. Six are employed with their co-op company or another telecommunications company. Three have offers to return to their co-op employer but will consider opportunities with other telecommunications companies.

Two Group C students were released from co-op positions and are interviewing with other companies.

Five group D students completed their fourth quarter of class and three have been placed in co-op positions.

Automated Systems Design, a telecommunications company in Roswell Georgia, interviewed seven students and has hired four. The company also has agreed to donate some excess equipment to be used in our classrooms.

A video tape, to be used in dissemination, was completed. It is a six minute video depicting the highlights of the program.

BEN HILL - IRWIN TECHNICAL INSTITUTE

P.O. BOX 1069 • FITZGERALD, GEORGIA 31750 • PHONE 912/468-7487

April 6, 1991

Mr. Robert Miller
Office of Vocational and Adult Education
US Department of Education
Swilzer Building, Room 4512
400 Maryland Avenue, S.W.
Washington, D.C. 20202-7442

Re: V199A00014

Dear Mr. Miller:

Enclosed find the highlights of activities involving the above referenced high technology demonstration project during the first quarter of 1991.

Sincerely,

Bill Ellis
Project Director

tdw

Enclosures

"Working For Georgia's Future"

HIGHLIGHTS OF THE FIRST QUARTER 1991 ACTIVITIES

JANUARY

Five Group C students completed the third quarter and we were able to place only one in a co-op position. The four others enrolled for the fourth quarter of classroom/lab work. Continued attempts to place additional students were unsuccessful due to the state of the economy and the Mid-East crisis.

At the request of their employers, ten Group A and B students were permitted to remain on co-op for their second quarter. One student returned to class after one quarter of co-op.

Submitted a request to USDE for project budget adjustment.

FEBRUARY

William L. Ellis was appointed Project Director to replace Daniel G. Redus.

Visit by USDE Project Officer, Mr. Robert L. Miller. Was briefed on the status of the program, toured the facilities and visited with students, staff and faculty. Mr. Miller provided guidance for requesting an extension of the project and for other continuing requirements.

Received letter from USDE, subject *Data Collection for 1991 Mail Survey*. Follow-up on coordination with Mr. Justin Beosel, Westat Corporation, to clarify requirements.

MARCH

Project Director made trips to Albany, Atlanta, Macon and Jacksonville to line up co-op companies. Data base of prospective co-op companies was developed and computerized. This data base will be continually updated and become a permanent part of the Telecommunications placement effort.

A program evaluation was conducted and a report prepared by the Polaris Corporation. Copy forwarded to USDE Project Officer.

Dr. Ed Greene, President of Ben Hill-Irwin Tech, made a presentation of the Telecommunications Demonstration Project at the American Technical Education Association's 28th Annual Conference in Atlanta, Georgia on March 15, 1991. He also disseminated copies of the project description information packet at that meeting.

Group D students completed applications for co-op.

A final evaluation report was sent out to all participating companies to evaluate students completing their second quarter of co-op.

Three Group A and B students returned for the fourth quarter of classroom/lab work after completing two quarters of co-op. Seven students remained on the job.

Four Group C students and one from Group B completed their fourth quarter of classroom/lab work. One Group C student was placed and the others were scheduled for job interviews in early April.

Held Advisory Council meeting with a total of six people attending.

BEN HILL - IRWIN TECHNICAL INSTITUTE

P.O. BOX 1069 • FITZGERALD, GEORGIA 31750 • PHONE 912/468-7487

January 9, 1991

Mr. Robert Miller
Office of Vocational and Adult Education
U. S. Department of Education
Swilzer Building, Room 4512
400 Maryland Avenue, SW
Washington, DC 20202-7442

Re: V199A00014

Dear Mr. Miller:

Enclosed are the highlights of activities involving the above high technology demonstration project during the fourth quarter of 1990.

Sincerely,

Dan Redus

Dan Redus
Project Director

tdw

Enclosures

ACTIVITIES HELD DURING THE FOURTH QUARTER 1990

One of the companies which planned to participate in the program was not able to obtain necessary financing to start up the business. They had agreed to employ two students during this quarter. One of these students was employed by another participating company. The other student could not be contacted and was dropped from the program after one month.

The tool kits were received and dispensed to the students as they began their co-op work assignment.

Most travel reimbursement forms received contain errors. It was necessary to send out detailed instruction and a sample form for students to follow.

One co-op student was asked to resign from his position on the job. The employer stated that the student's attitude prevented him from functioning as a part of a team. The student returned the tool kit and was dropped from the program.

Another co-op student was dismissed by his employer for falsifying reasons for absences. The student was dropped from the program. The company involved has accepted another student as a replacement.

Several local newspapers printed photos and articles about students and the co-op program. Copies of these are attached.

Ben Hill-Irwin Tech hosted a meeting of the advisory committee on November 13, 1990 at the school. To encourage members to attend, the meeting was a working luncheon. All participating companies were invited to send a representative. The President of the Georgia Interconnect Association was also invited. Minutes of the meeting are attached.

Seven students applied for entrance to the program during the first quarter of 1991.

We mailed a new brochure with cover letter to all members of the Georgia Interconnect Association and several non-member companies as part of the continuing effort to recruit participating companies. Sample letter is attached. This letter and a brochure was mailed to 110 companies.

One of the co-op students National Guard unit was called to active duty. He hopes to return to the co-op program when the unit is deactivated. The employer would like for him to return to work.

A newsletter was sent to all students and employers. A copy is attached.

As of January 4, 1991, eleven students are entering their second quarter of co-op employment and one student will start co-op employment on January 7, 1991. We are continuing to obtain co-op employment for the other students.

MINUTES
TELECOMMUNICATIONS ADVISORY COMMITTEE

The advisory committee for the Telecommunications Cooperative Training program met for a working luncheon on November 13, 1990.

All seven cooperating companies were invited to attend the meeting.

Those attending were:

Mr. Tom Jones-President of Georgia Interconnect Association
Mr. Bobby Hobby-Southern Telephone Contractors
Mr. John Archer-Director of Institutional Advancement, BHIT
Mr. Glenn Bishop-Telecommunications Instructor, BHIT
Mr. Dan Redus-Project Director, BHIT

Mr. Archer outlined the history and purpose of the cooperative program. The industry representation agreed that all are suffering from a profit squeeze in the small telephone system market. Companies serving this market cannot afford to employ a sales force. They must rely on the technicians to sell. They requested increased training in interpersonal relations and sales techniques. Mr. Jones will formally request this needed training in a letter to the Georgia Department of Technical and Adult Education.

The committee reviewed the following measures to formulate an evaluation of the program:

> Number of trainees entering program - all students of the telecommunications department applied to enter the co-op program. Seventeen applied for the fourth quarter of 1990 and seven have applied for the first quarter of 1991.
>
> Number and percent of trainees placed with employers - 15/88%
> Number and percent of trainees retained after 6 weeks - 12/80%
> Percent employed at above minimum wage - 100%
>
> Supervisor evaluation of trainee performance - all 12 trainees remaining in the program are rated satisfactory or higher.

Mr. Hobby requested that the employer weekly evaluation form be simplified.

The committee discussed the reasons for the three trainees dismissed from the program: One trainee quit work without stating a reason; another was asked to resign due to an attitude that prevented his working with others; the third was dismissed for falsifying reasons for absence from the job.

Mr. Jones pledged the assistance of the Georgia Interconnect Association in the effort to obtain the enlistment of additional Interconnect companies into the cooperative training effort. He will include an article on the program in the next newsletter to the association's membership.

The agenda of this meeting will be discussed with as many of the non-attending companies as is practical and their comments will be attached to these minutes.

With nothing else to be discussed, the meeting was adjourned.

Signed,

Dan Redus

Dan Redus, Co-op Director

The following are comments made by those committee members that were unable to attend the meeting:

Mr. Lee Vann-Harbei Communications: He would like to see the weekly report form simplified. He is satisfied with the two students presently in his employ. The student that he asked to resign was adequately trained in telecommunication theory and methods. However, he lacked the ability to get along with other employees. Mr. Vann suggested we improve training in the area of interpersonal relations.

Mr. J. R. Thomas-Atlantic Telcom: Mr. Thomas is satisfied with the two students now employed by Atlantic Telcom. He feels the training they received was adequate. His company will not be able to increase its participation in the program unless business conditions improve. The general fear of a recession has hurt growth.

Mr. Danny Sanders-Sanders Communications: Mr. Sanders has no student trainees employed at the present; therefore, he had no comment on the program. He doubts that he will be able to fulfill his commitment to employ a student in the first quarter of 1991 due to decrease in business activity.

Mr. Todd Tolbert-A-Action: Mr. Tolbert says that he supports the program; however, unless volume of business improves he will be unable to participate in first quarter of 1991.

Mr. Dean Burke-Key Four Inc.: Mr. Burke is very pleased with all four students presently employed. He will recommend the program to other companies. Key Four will be able to continue to employ these students during the first quarter of 1991 but probably will not be able to employ additional students.

Signed,

Dan Redus

Dan Redus, Co-op Director

BEN HILL - IRWIN TECHNICAL INSTITUTE

P.O. BOX 1069 · FITZGERALD, GEORGIA 31750 · PHONE 912/468-7487

November 27, 1990

Mr. Scott Moman
Applied Communications Systems
119 Davis Road
Suite 73
Augusta, GA 30907

Dear Mr. Moman:

The purpose of this letter is to inform you of an excellent opportunity for your company to obtain trained technicians. The enclosed brochure will tell you how.

Seven Georgia Interconnect companies, employing twelve student/trainees, are presently enjoying the benefits of this program.

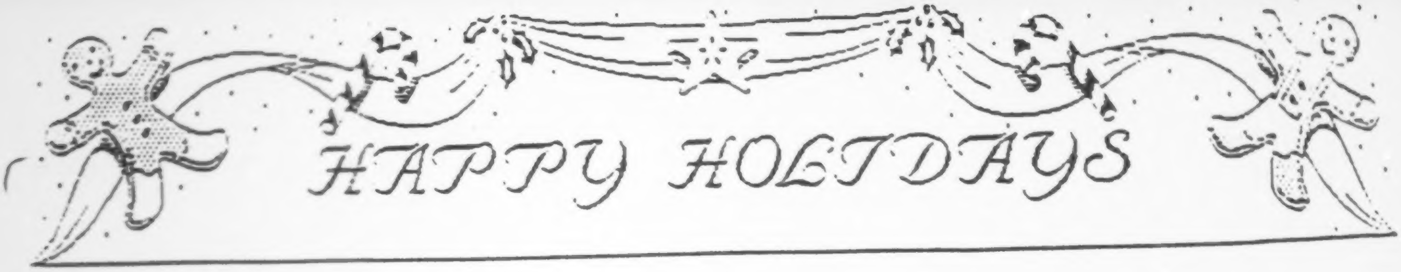
Contact us soon, additional student/trainees will be available in January.

Sincerely,

Dan Redus

Dan Redus
Telecommunications Co-op Director

tdw



TELECOMMUNICATIONS CO-OP NEWS

For Students and Employers

TRAINED TECHNICIANS Six students have qualified to begin working on the co-op program in January 1991. We are now seeking companies to employ these students. If your company needs additional trained technicians, please contact Ben Hill-Irwin Tech as soon as possible.

NATIONAL GUARD STUDENT Bruce Austin has left the co-op program for active duty with the National Guard.

REPORTS All weekly reports and travel reimbursement forms for the fourth quarter of 1990 must be received by January 12, 1991. If you are behind schedule in filing these reports, please catch up as soon as possible. Forms received after January 12th cannot be processed for payment. Effective January 1991, all reports must be received by the 25th of the following month. This will be the cutoff date for all reports.

**HAVE A MERRY CHRISTMAS
AND A
HAPPY NEW YEAR!!**

Ben Hill-Irwin Tech
P. O. Box 1069 Fitzgerald, GA 31750
(912) 463-7487

BEN HILL - IRWIN TECHNICAL INSTITUT

P.O. BOX 1069 ★ FITZGERALD, GEORGIA 31750 ★ PHONE 912/468-748

April 10, 1990

Robert [illegible]. Miller
U.S. Department of Education
Office of Vocational and Adult Education
Room 4524
300 Maryland Ave.
Washington, DC 20202

Dear Mr. Miller:

re: V199A00014

Enclosed is a quarterly review of the progress of the High Technology Demonstration Project for the first quarter of 1990.

I realize the length of this report is more than you requested. However, I feel it was necessary in order to fully understand the start-up of the project.

Sincerely,

Dan Redus

Dan Redus
Project Director

January 1990

Glenn Bishop contacted the following who agreed to serve on the project advisory committee.

Ms. Carrie Downs - Business Comm Systems, Mr. John Burke - Key Four Inc., Mr. Bishop will also serve on the committee.

Dan Redus project director as of January 23, 1990.

Group A, composed of eleven students, began classes in October 1989.

Group B which began classes in January 1990 also has eleven students.

Mrs. P. Tucker, Vice President Administrative Services, will be responsible for all financial activities associated with the project.

Mr. R. Cargile, Vice President Student Services, will be responsible for all contacts with media.

Introductory letter, attachment A, was mailed to approximately 300 Telecommunication Interconnect Companies.

February 1990

A press release, attachment B, was sent to local media. The release was printed in all six newspapers in the local service area of Ben Hill-Irwin Tech. Attachment C is a copy from one of these.

Open House was held for the public and prospective students. An insert, describing the co-op program, was given out along with the brochure on Telecommunications. See attachment D.

Problem: How to provide complete information on the project to both industry and the students.

Solution: A booklet will be developed. One for industry and one for students. The booklet will contain a description of the co-op project and a sample of all forms used in the project.

Mike Walton, Communication Supply Co. Tucker, GA. agreed to include information on the co-op program in each shipment of telecommunication parts. We shipped him 300 copies of attachment E. The letterhead of the Georgia Interconnect association, used with their permission, should have a greater impact than the school letterhead.

March 1990

The workshop in Washington, DC was attended by Glenn Bishop, Telecommunications Instructor; Kathy Welsh, Administrative Assistant - co-op project; and Peggy Tucker, Vice-President Administrative Service. The Project Director, Dan Redus, was unable to attend due to an illness in the family.

Congressman Charles Hatcher, Georgia 2nd district, officially presented the grant to Ben Hill-Irwin Tech. Attachment F is an example of the publicity of the press conference.

On March 29, 1990 the project director attended a Career Fair at Coffee County High School. Eighteen students signed up to receive more information ont he telecommunications program.

ATTACHMENT A

BEN HILL - IRWIN TECHNICAL INSTITUTE

P.O. BOX 1069 • FITZGERALD, GEORGIA 31750 • PHONE 912/468-7487

January 30, 1990

Ms. Carrie Downs
Buiness Telephone Systems
1351 Oakbrook Dr.
Suite 140
Norcross, GA 30093

Dear Ms. Downs:

Ben Hill-Irwin Tech is proud to announce the award of a federal grant for the administration of a co-op program for training students for the Telecommunications Interconnect Industry.

The first two groups of students, already in the program, will begin the co-op work experience about October 1 of this year. They will return to class for winter quarter and co-op again during spring quarter of 1991. One group will be graduated after that, and the other will be graduated after summer quarter.

All students eligible for co-op will have completed three quarters of classroom instruction with an excellent academic standing. The curriculum content was designed with the assistance of the Interconnect Industry, and includes courses in math, electronics, telephony, and general subjects.

Since the program involves only a three-way training agreement among Ben Hill-Irwin Tech, Industry, and the students, it does not guarantee full-time employment after graduation. It does, however, give previous work experience which most employers require. Furthermore, many students otherwise unable to afford training may be able to do so with the income generated through cooperative education.

Feedback from Industry and students involved in the program will be used to improve the technical proficiency of the training.

We hope you will find this new program a valuable asset to you and your company and invite you to participate.

For further information please contact Dan Redus or Kathy Welsh by calling (912) 468-7487 or writing to Ben Hill-Irwin Tech, P.O. Box 1069, Fitzgerald, Georgia 31750.

Sincerely,

Dan Redus

Dan Redus
Telecommunications Project Director

ATTACHMENT B 2 pages

NEWS from
Ben Hill-Irwin Tech

RICHARD CARGILE
Vice President

February 8, 1990

B.H.I.T. GETS $200,000 TECHNOLOGY GRANT

A federal grant of $200,000 has been awarded to Ben Hill-Irwin Technical Institute. Dr. Edgar Greene, President of Ben Hill-Irwin Technical Institute, said the grant will be used in the Telecommunications Technology program.

"We will use the grant to provide co-operative type training for the students in the Telecommunications Technology program," said Greene. "We have employed Dan Redus of Fitzgerald to direct the grant project; Dan recently retired from A T & T, and his management experiences with that giant in the telecommunications industry certainly qualifies him to handle this project."

Glenn Bishop of Irwin County is the primary instructor of the Telecommunications Technology program at Ben Hill-Irwin Tech.

Redus said that only the top-ranked students in the program will be eligible to participate in the co-op phase of the training. "The students who come out of the Telecommunications Technology Co-op program will be the 'cream of the crop,'" said Redus.

Provisions of the co-op arrangement will allow the students to co-op in the continental United States wherever there are telecommunications jobs. All expenses of the students, while on

(CONTINUED)

BEN HILL-IRWIN
TECHNICAL INSTITUTE
P.O. BOX 1069 • FITZGERALD, GEORGIA 31750
PHONE 912/468-7487

co-op, will be paid out of the grant. A set of tools, which the co-op student must have, will also be paid from the grant money. The co-op employers will pay the students a salary during the co-op experience.

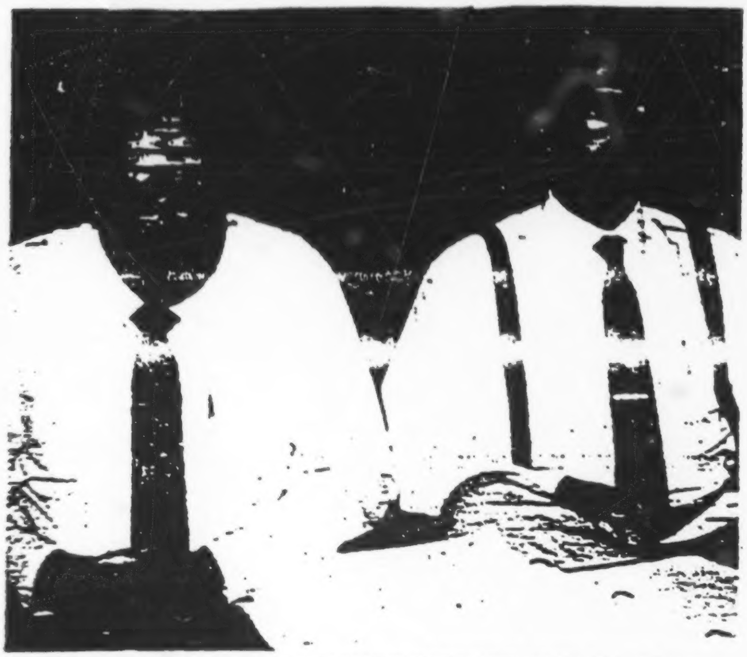
"This grant will help our students to get started in the work world and will help them build a 'nest egg,'" Bishop explained. "We don't want students to think just because they aren't accepted in the co-op phase of the training, that they won't succeed," Bishop said; "we'll make sure we do all we can to produce well-trained graduates."

Any prospective students who may be interested in a promising career in the telecommunications industry should visit Ben Hill-Irwin Tech and find out more.

END

ATTACHMENT C

12-A · THE HERALD-LEADER · Wednesday, February 14, 1990



DAN REDUS (L), GLENN BISHOP DISCUSS $202,000 GRANT
BHIT Receives Grant for Telecommunications Program

BHIT receives $200,000 federal technology grant

A federal grant of $202,521 has been awarded to Ben Hill-Irwin Technical Institute. Dr. Edgar Greene, president, said the grant will be used in the telecommunications technology program.

"We will use the grant to provide co-operative type training for the students in the telecommunications technology program," said Greene. "We have employed Dan Redus of Fitzgerald to direct the grant project. Dan recently retired from AT&T, and his management experiences with that giant in the telecommunications industry certainly qualifies him to handle this project."

Glenn Bishop of Irwin County is the primary instructor of the telecommunications technology program at Ben Hill-Irwin Tech.

Redus said that only the top-ranked students in the program will be eligible to participate in the co-op phase of the training. "The students who come out of the telecommunications technology [illegible] program will be the 'cream of the crop'," said Redus.

Provisions of the co-op arrangement will allow the students to co-op in the continental United States wherever there are telecommunications jobs. All expenses of the students, while on co-op, will be paid out of the grant. A set of tools, which the co-op student must have, will also be paid from the grant money. The co-op employers will pay the students a salary during the experience.

"This grant will help our students to get started in the work world and will help them build a 'nest egg'," Bishop explained. "We don't want students to think just because they aren't accepted in the co-op phase of the training, that they won't succeed." Bishop said: "we'll make sure we do all we can to produce well-trained graduates."

Any prospective students who may be interested in a promising career in the telecommunications industry should contact Ben Hill-Irwin Tech.

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CO-OP PROGRAM

The Telecommunications Cooperative Program is a program funded in part by the U.S. Department of Education and in part by Ben Hill-Irwin Tech. It is designed to provide practical on-the-job experience for students who qualify. The program will provide these students with job experience and will provide the telecommunications industry with entry level technicians who will enter the work force with the skills that will enable them to be immediately productive.

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BEN HILL-IRWIN TECHNICAL INSTITUTE

For Further Information Contact:

Student Services Office
Ben Hill-Irwin Tech
P.O. Box 1069
Fitzgerald, GA 31750
(912) 468-7487

Ben Hill-Irwin Tech does not discriminate on the basis of race color, national origin, sex, or handicap in educational programs, activities, or employment.

Ben Hill-Irwin Tech

TELECOMMUNICATIONS

ATTACHMENT D 2 Pages

YOUR FUTURE IN TELECOMMUNICATIONS...

CAREER OPPORTUNITIES

According to the U.S. Department of Labor, over 73,000 jobs existed in 1984 for communications equipment technicians. Employment opportunities in the field are expected to increase. Technological advances in the field will stimulate the demand for more technicians. Conversion of older electro-mechanical equipment to digital electronic switching equipment is expected to increase, thereby making room for additional technicians. Many job openings will arise each year as experienced workers in the field are promoted to more technical positions within the telecommunication industry.

YOUR CAREER

Most technicians in the telecommunications field work with interconnect companies either installing or repairing complex telephone systems on customers' premises. Some technicians work on a wide variety of telecommunications networks using electronic test equipment to repair, test, or modify the systems. Others specialize in marketing, engineering, or planning systems. Telecommunications technicians have a number of opportunities for advancement, which usually involves further training. They may be promoted to jobs maintaining more sophisticated equipment or to engineering technician jobs.

COURSE CONTENT

The purpose of the 18-month Telecommunications Technology Program is to provide educational opportunities for individuals to obtain the knowledge, skills, and attitudes necessary to succeed in the field as technicians. Areas of study include AC/DC circuits, digital and solid state devices, computer fundamentals, and microprocessor interfacing. Specific technical courses include telephony skills, cable and telephone system installations, troubleshooting and repair, data communications, digital telephony, analog communications, fiber optics, traffic analysis, and network design. Graduates of the program will be able to perform a wide range of activities. They will install, troubleshoot, maintain, repair, and replace telecommunications systems and associated equipment.

JOB PLACEMENT

Graduates of Ben Hill-Irwin Tech are provided assistance in locating suitable employment within their chosen field. The staff maintains contacts with the Georgia Interconnect Association, an association of companies involved in the sale, installation, and repair of business communications equipment.

The Department of Technical and Adult Education guarantees employers that graduates of state technical institutes shall possess the skills and knowledge as prescribed by State Curriculum Standards.

Should any graduate employee within two years of graduation be deemed lacking in said skills, that student shall be retrained in any state technical institute at no charge for institutional costs to ither the student or the employer.

FINANCIAL INFORMATION

Ben Hill-Irwin Tech is one of the most cost effective values in postsecondary ducation. The tuition fee and the supply fee are $164.00 per quarter. Books and equipment are additional costs which vary each quarter.

For those students who qualify, finan- ial aid is available from a variety of ources.

VISITORS WELCOME

We welcome visitors to Ben Hill-Irwin Tech where you can best determine that BHIT is the right choice for your training and education. The Student Services Office is open from 8 a.m. until 4 p.m. Monday through Friday.

ATTACHMENT E

Georgia
Interconnect
Association

Officers
Carrie King Downs, President
Business Telephone Service, Norcross
Bob Kasbey, Vice President
Oliver Electronics, Atlanta
Bill Truelove,Secretary
A-Com, Columbus
Brett Burke,Treasurer
Key-Four, Atlanta

News Tip

February [illegible], 1990

You are spending too much money training your new technicians!

Ben Hill-Irwin Tech, a public, tax assisted, technical school located in Fitzgerald, Georgia, has been awarded a U.S. Department of Education grant to train technicians for the interconnect industry.

These trained technicians will be available to you in October 1990 on a co-op basis after they have completed three of the four quarters required for graduation.

Two former employees of AT&T, Glenn Bishop and Dan Redus, administer the training and co-op programs at Ben Hill-Irwin Tech.

We urge all Interconnects to participate in this program, because it is an excellent source of trained technicians. Your participation will save your company expensive training costs.

For further information please contact Dan Redus or Kathy Welsh by calling (912) 468-7487 or writing to Ben Hill-Irwin Tech, P.O. Box 1069, Fitzgerald, GA 31750.

3000 Langford Rd. Bldg. 2400 Norcross, GA 30071 (404)446-0399

BEN HILL - IRWIN TECHNICAL INSTITUTE

P.O. BOX 1069 • FITZGERALD, GEORGIA 31750 • PHONE 912/468-7487

October 2, 1990

Mr. Robert L. Miller
US Department of Education
Office of Vocational and Adult Education
Room 4512 Switzer Building
400 Maryland Avenue
Washington, D.C. 20202-7242

RE: V199A00014

Dear Mr. Miller:

As we discussed during our last telephone conversation, I am enclosing a copy of the external evaluation I asked for, a copy of my response to that evaluation, and the Third Quarter Report from Dan Redus, Project Director.

I think that you will conclude from the evaluation response, and my comments to you over the phone, that we have corrected about all the discrepancies revealed by the evaluation. I am satisfied that the grant is now on track and moving in the right direction.

At this time of this writing the remaining two eligible students are interviewing in Atlanta for placement with a company. Since our goal for placement was only ten students the first cycle, we will be well ahead of schedule.

While many employers are still leery of the economy and middle-east situation, they are participating in sufficient numbers for this grant.

Should you have questions or concerns regarding anything that I have included in this correspondence, please let me know.

Sincerely,

John R. Archer
Director of Institutional Advancement

RESPONSE TO EXTERNAL EVALUATION

At the request of the institution, SemCon, Inc., Greenville, S.C., conducted an on-site evaluation of the Telecommunications Cooperative Demonstration Project on August 29, 1990. Following is an item by item response to each finding in the evaluation.

Problems with Current Situation:

ITEM: Cooperative Employment Placements.

o Search not started early enough.
Response: The search was not started early enough, but catch-up efforts have overcome this problem. The fact that the Iraq crisis would frighten business could not anticipated; this delayed the response of many companies that have subsequently come on board. Some of these problems could have been avoided had the search begun earlier. This situation is under control and will not be a problem in the future.

o Lack of urgency to locate possible employers.
Response: True. This situation has been rectified.

o Records of phone conversations not kept in the beginning.
Response: They were kept, but in an informal manner. Detailed records of phone conversations and follow-ups are now being kept.

o No tracking mechanism or tickler system for follow-up calls.
Response: See item above. System is in place.

o Search concentrated on local area, rather than state-wide or national.
Response: Initial contacts with potential company participants went out state-wide through the Georgia Interconnect Association. Cultivation of employers started locally and is now expanding. This was done because most students want to co-op as close to home as possible. The market for employers has been expanded state-wide and will extend beyond state boundaries this month.

o Phone calls rather than direct personal contact.
Response: This problem was being corrected when the evaluation was conducted.

o Informational materials sent out do not reflect the professional image of BHIT.
Response: True. Has been corrected. Interested employers wanted more detailed information early on than we were prepared to provide in a professional manner.

o Prospective employers not given benefits to them for participation.
Response: Disagree with evaluator. Emphasis has been, and

will continue to be placed on this.

ITEM: Project Advisory Committee not formed and operational.

Response: Correct. Has been corrected.

ITEM: Quarterly Progress Reports not done.

Response: They have been completed but were not made available to evaluator - a miscommunication.

RECOMMENDATIONS:

1. Mr. Archer contacted Bob Miller and discussed the situation with him. Mr. Archer outlined to Mr. Miller what steps were being taken to insure the success of the grant.

2. The Project Advisory Committee formation will be completed this month.

3. Quarterly Reports will address qualitative and quantitative measures of the grant.

4. Ads have been placed with a major telecommunications publication.

5. One page flyer has been distributed to over 300 companies with a cover letter from the president of the Georgia Interconnect Association.

6. A very professional promotional piece is at the printers for publication and will distributed throughout the industry by the end of September.

7. A systemized marketing approach has been established and is being followed. The system includes a cross-reference mechanism to insure sequential follow-up for contact, interview and recruitment of employers.

THIRD QUARTER REPORT

July 1990

- The employer's booklet, including the revised memorandum of agreement and evaluation forms, was approved by the school administration.

- Pre-test was administered to students of Group D. Test results will be used in the evaluation of the program.

- Began concentrated effort to contact more prospective employers. Contacted 13 additional employers in July; results were as follows. Eight companies requested detailed description of program; scheduled personal visit to four companies; scheduled date for visit of one company to school to see program and speak with students.

August 1990

- Project Director visited three prospective employers in the Atlanta area, and discussed the co-op program in detail.

- All companies contacted stated that they felt the program was exactly what the industry needed - a source of trained entry-level employees. Each pledged their full support for the program; however, due to the middle-east situation many were not willing to make a firm commitment to the program at this time. All want to pending the outcome of the middle-east situation.

- After consultation with the project Advisory Committee and the school administration, it was decided that the project director and program instructor would intensify their efforts to visit personally with prospective employers to receive firm co-op commitments. It was also decided that a thorough description of the classroom training of the program would be developed so that industry representatives might be fully informed as to the knowledge the students would bring to the work place.

- During the last two weeks in August several visits were made to prospects. Four companies plan to participate now; two will execute and agreement for participation beginning Winter Quarter.

- Mr. Tom Jones, new president of the Georgia Interconnect Association, visited the school to get a first-hand look at the program. He agreed to replace the past president on the project advisory committee, and agreed to send a letter to all interconnect members in support of the co-op program.

September

- Student tool kits were ordered to be available by October 1st. By ordering in bulk quantity (30 kits), we were able to save $50 per tool kit. Cost of the kits was $17,873.40; just under the budgeted amount.

- Project Director visited six companies resulting in one company visit to the school for the purpose of interviewing students.

- As of September 28th 12 students have firm placements. Four students are still interviewing; their status should be determined within the next week. One student dropped from the program by personal choice. Five companies are pending the decision to participate. Their decision is expected at any time.

- The placement and recruitment process continues.

SUPPLEMENT #8

BEN HILL-IRWIN TECHNICAL INSTITUTE
TELECOMMUNICATIONS COOPERATIVE TRAINING PROGRAM
EMPLOYER'S QUARTERLY EVALUATION REPORT

Co-op Student Name ______________________________

Employer ______________________________

Please evaluate the student/trainee's knowledge and performance in the following areas comparing him/her with others of comparable academic and experience level and with other personnel assigned to the same or similar classified jobs. Scale: 5-excellent, 4-above average, 3-average, 2-below average, 1-poor

AREA	KNOWLEDGE	PERFORMANCE
English	4.43	4.43
Mathematics	4.43	4.50
Interpersonal Relations	4.14	4.07
AC and DC Circuits	3.78	4.00
Digital and Solid State Devices	3.40	3.33
Computer Systems	3.55	4.00
Telephony Systems	3.83	4.00
Microprocessor Interfacing	3.00	3.00
Fiber Optics	3.61	4.10
Telecommunications System Installations	4.15	4.15
Telecommunications System Maintenance	4.15	4.23
Traffic Analysis	3.33	3.33
Network Design	3.86	3.80

Remarks ______________________________

____

____

____

____

Do you feel that the cooperative training program has been of value to your company? Please explain.

Answers were universally positive.

Please state any suggestions you may have to improve the operation of the cooperative training program. Attach additional pages if needed.

Various positive replies but no uniformity in suggestions.

Evaluator (Print or Type Name)

Phone Number

Signature

Date

Please prepare this report near the end of each quarter of the student trainee's work experience and return to:

Ben Hill-Irwin Tech
Telecommunications Co-op Director
P. O. Box 1069
Fitzgerald, GA 31750

SUPPLEMENT #9

BEN HILL-IRWIN TECHNICAL INSTITUTE

TELECOMMUNICATIONS COOPERATIVE TRAINING PROGRAM

STUDENT EVALUATION REPORT

Student Name

Co-op Employer

Number of Classroom Quarters Completed

Description of Primary Duties

Please evaluate how well you were prepared (through classroom/lab work) to perform in each of the following areas, during your on-the-job training. *Scale: 5-excellent, 4-above average, 3-average, 2-below average, 1-poor. If you did not perform in the area of competency, answer N/A.*

AREA	PREPARATION
AC and DC Circuits	4
Digital and Solid State Devices	4
Computer Systems	4
Telephony Systems	4
Microprocessor Interfacing	3.7
Fiber Optics	4.1
Telecommunications System Installations	4.2
Telecommunications System Maintenance	4.4
Traffic Analysis	4
Network Design	3.9

To what degree did the co-op experience help prepare you for a permanent job? (Scale of 1 to 5 with 5 being highest) 4.4

Evaluation Report Page 2

Did you experience a good variety of beneficial work assignments while on co-op? (Yes or No) Yes

Do you feel the tool kit provided to you was adequate? (Yes or No) Yes Why?

What areas of study do you feel need more emphasis during the classroom/lab phase of your training? Please explain.

Many had no recommendations. Other replies varied. None were dominant.

What areas of study do you feel should be reduced or eliminated from the classroom/lab phase of your training? Please explain.

Majority recommended no change. Other replies had no unanimity.

What was your co-op starting salary? Avg. $7.35 per hour

Did you get a raise during your two quarters of co-op? Majority "no"

What was your salary at the end of the two quarters of co-op? avg. $8.72 per hour

Would you have been able to work in the area where you were employed without benefit of the stipend? unanimous "no"

Please state any suggestions you may have to improve the operation of the cooperative training program. Attach additional pages if needed.

Most had no suggestions. Other remarks had no unanimity.

Student (Print or type name)

Phone Number

Signature

Date

**Please return in enclosed envelope.

SUPPLEMENT #10

BEN HILL-IRWIN TECHNICAL INSTITUTE
Program Advisory Committee Meeting

September 19, 1991
7 p.m.

-AGENDA-

Program Areas

Call to Order . . . . Program Instructor

Reading and Approval of Minutes . . . . Program Instructor

New Business . . . . Chairperson

a. Evaluate the community relations plan.

b. Make recommendations regarding the design and use of physical facilities.

c. Assist in evaluation of program promotion and make suggestions for improving recruiting efforts.

d. Review student enrollment, attrition, graduation, and placement results.

Adjournment . . . . Chairperson

Refreshments . . . . Cafeteria

BHITI
BOARD POLICY

Tab **Boards**
Section **General**
Subject **Philosophy and Purpose**

Document Number 01-01-01

PHILOSOPHY

The belief which led to the establishment of Ben Hill-Irwin Technical Institute was that many high school graduates, who had only the choice of entering college or entering the world of work, needed a third path - namely, vocational/technical education - from which to formulate career plans. From this original concept came an abundance of ideas for training not only high school graduates but also unskilled residents of Georgia. As a natural, concomitant effect, from meeting the needs of the people came the idea of meeting the training needs of business and industry.

Ben Hill-Irwin Technical Institute, therefore, came into existence and has continued to operate for two basic reasons. First, the school afforded opportunities for the unskilled to acquire marketable skills; and opportunities for current workers to upgrade existing skills. Secondly, the school produced workers who possessed the skills needed by business and industry.

The community, the board of directors, the faculty, and the staff strongly believe that the school - as a part of the Georgia Department of Technical and Adult Education - should strive to serve the communities within its sphere of influence with continuing opportunities for comprehensive, competency-based programs of instruction and services in technical education, adult literacy, and economic development training.

This body subscribes also to the concept of services designed to meet the community defined needs and economic well-being of the individuals, businesses, and industries within the school's sphere of influence.

The beliefs and values held by the community, the board of directors, the faculty, and the staff are punctuated by an insistence on the delivery of services to the school's clientele without regard to race, color, national origin, religion, sex, age, handicapping condition, academic or economic disadvantage.

PURPOSE

The purpose of the school shall be to prov opportunities for qualified individua businesses, or industries within its sphere influence to acquire technical education, ad literacy, or economic development traini To do so, the school has defined its purp as follows expressed in precepts wh represent the official posture of the scho

Educational diploma programs shall prov full-time, standardized, and guarant technical and supporting general educat skills required for successful entry-le employment and occupational growth.

Cooperative joint degree programs shall ena students holding a diploma from designa diploma programs to earn a degree in Appl Technology.

A Developmental Studies Program shall ass students in improving their basic acade skills and preparing for the pursuit personal educational goals.

Career exploration services shall be provid to the area high schools to assist prospecti students in selecting career paths which wi maximize their chances for success continuing education and in achievi occupational success.

Economic development services shall established to assist area business a industry entities in meeting employee traini needs through a variety of activities includi Quick Start projects and customized special training.

Off-campus programs of instruction sha deliver programs and services to clientele site throughout the school's service delive area.

Community programs and services shall provi area citizens a variety of opportunities enrich their personal and professional live

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These opportunities shall include adult literacy programs, non-credit workshops, and short courses of instruction.

Work-base learning programs, as cooperative efforts with business and industry, shall facilitate a unique interface among business or industry, the student, and the school in an effort to combine classroom and work place learning platforms to produce well-trained, entry-level workers.

All programs, services, and activities shall be delivered in a non-discriminatory manner without regard to race, color, national origin, religion, sex, age, handicapping condition, academic or economic disadvantage.

Student services - including recruitment, orientation, admissions, student financial aid, testing, evaluation, guidance and counseling, and job placement and follow-up - shall be made available to all clientele.

Adequate facilities, equipment, and supplies relevant to the training in each occupational area shall be made available.

Fiscal responsibility to the State of Georgia shall be ensured.

A competent and qualified staff and faculty shall be established and maintained.

Occupational safety shall be taught and stressed in each program of instruction.

Linkage with area high schools, colleges, government agencies and other educational entities shall be developed and maintained to ensure the school's position in the educational continuum.

Work ethics shall be an integral part of each program of instruction.

Program__________________________ Date______________________________

ANNUAL PROGRAM EVALUATION

Criterion 1

The philosophy, purpose, goals, and objectives of the program are consistent with those of the institution, the Georgia State Board of Technical and Adult Education, and the designated accrediting agency.

Explanation: There are a number of differing documents that express philosophies, purposes, goals, and objectives for the institution. Program statements are located in the program standards and the program guides. Institutional statements are located in the BHITI Strategic Plan and in BHITI Board Policy. DTAE statements are found in the DTAE Strategic Directions document and in the DTAE Annual Report. The general program standards also contain information on this subject. The Southern Association of Colleges and Schools makes a statement on the purpose of institutions in its manual entitled The policies and Standards of the Commission on Occupational Education Institutions.

Evaluation

Are all statements of philosophy consistent with one another?

Comments:____

Are all statements of purpose consistent with one another?

Comments:____

Are all statements of goals consistent with one another?

Comments:____

Are all statements of objectives consistent with one another?

Comments:____

Date of evaluation_____________

Verification by:
Administration________Faculty_______Advisory Committee__________

Page 1 of 8

Criterion 2

To what extent were program goals and objectives achieved?

Explanation: Read the statement of goals and the statement of objectives in the Program Guide and make appropriate comments relative to the achievement of stated goals and objectives. In particular note any goals or objectives that have been met with great success or those which represent opportunities for improvement.

Comments:

Goals

Objectives

Date of Evaluation

Verification by
Administration Faculty Advisory Committee

Criterion 3

Is the program adequate to meet current occupational needs?

Explanation: This statement assumes current occupational needs are known. There are many sources of information available to determine these needs. A few of the sources are: the US Labor Department's Occupational Outlook Handbook, Advisory Committee members, Job Availability Notices in the Placement Office, occupational surveys conducted by the GDTAE, and files available in the Office of Institutional Advancement. Make any necessary comments. Include comments, if any, that would help to improve the program's ability to better meet current occupational needs.

Comments____

Were current known occupational needs analyzed and used to evaluate the program? ______Yes_____No

Date of evaluation____________

Verification by
Administration_________Faculty________Advisory Committee________

Criterion 4

What were the enrollment, attrition, graduation, placement, and student performance level rates of the program?

Explanation: This is a multi-part statement and each part involves considerable statistical information. Calculate in percentages the quarterly rate of enrollment, attrition, graduation, placement, and student performance levels for the program. The state standard is ten students per quarter per instructor for the year. Calculations should be made using the I-G-2 Formula in the IES Evaluation.

Calculations:

The enrollment figures for each quarter were: _________Summer 19_
_________Fall 19__
_________Winter 19__
_________Spring 19__

The average enrollment was_________

The attrition rate for the year was____________%_ (DTAE allows an attrition rate of 75% or a graduation rate of 25%; 25 out of every 100 exiters graduates. This figure may be calculated using the II-G-4 Formula in the IES Evaluation).

The program placement rate was__________%_(The state requires two separate placement rates be met by each program. The first says that 85 of every 100 graduates must result in positive placements; use the II-B-3 Formula in the IES. The second requirement says that 3 out of every 4 graduates must be placed in field or in a related field; calculate by using the II-B-4 Formula in the IES.

Comments____
____
____
____
____
____

Verified by
Administration_______Faculty________Advisory Committee___________

Criterion 5

The program evaluation procedure includes a review of student performance levels.

Explanation: Each quarter the Director of Placement and Public Relations sends out survey forms to graduates. These forms are returned directly to the GDTAE who then compiles the results and sends out questionnaires to the respondent's employers. The results of these questionnaires are made available to the institution each winter quarter. Another source of information about how well BHIT graduates are doing on the job are the program advisory committees. Considering a review of the literature on student performance, make any comments that might lead to program improvements.

Comments____

Verified by
Administration_______Faculty_______Advisory Committee___________

Criterion 6

Each program is evaluated annually by students.

Explanation: The student evaluation is a survey of all students enrolled in the program. The vice president of instruction conducts the survey quarterly, tabulates and summarizes the opinions of the student respondents, and provides the results to the individual program instructors. The vice president of instruction and the program instructors jointly discuss the survey results. In the comments section below, summarize any strengths or weaknesses of the program that should receive attention.

Comments____

Were student evaluations for the previous year reviewed?
______Yes_____No

Verification by
Administration_______Faculty_______Advisory Committee_________

Criterion 7

Consultation with the program advisory committee, frequent communication with employers, analysis of placement and follow-up data, and collection of other pertinent information is utilized to improve the program.

Explanation: Program improvement results from the on-going use of information from a variety of sources. How this information is used determines to a significant degree what actions are taken to improve programs. An important part of program evaluation is a review of how this information is used to prompt changes in programs. In the comment section below, briefly describe the effectiveness and outcomes of this process.

Comments____

Verification by
Administration_________Faculty_________Advisory Committee_________

Criterion 8

How will the results of the program evaluation be used to improve the program?

Explanation: Having reviewed the results of the evaluation of criteria 1 through 7, the vice president and director of instruction should formulate actions in response to evaluation findings.

Actions to be Taken:

Signature, VP Instruction

Date

SUPPLEMENT #11

High Technology Demonstration Project

V199A00014

Telecommunications Co-operative Program With Industry

US Department of Education

Office of Vocational and Adult Education

Program Evaluation

Ben Hill – Irwin Technical Institute
Fitzgerald, Georgia 31750

March 20, 1991

Prepared by
Polaris Corporation
2320 East North Street
Greenville, SC 29607

TABLE OF CONTENTS

Introduction 2

Program Description 3

Program Goals 3

- Administer program with qualified personnel 3
- Establish curriculum 3
- Provide supervised work experiences 4
- Recruit six to eight co-operative trainees per quarter 4
- Provide tools to trainees 4
- Provide per diem and travel expenses for trainees 5
- Evaluation of program by employers 5
- Review of program by BHIT 6
- Place graduates in jobs 6
- Provide adequate training resources 6
- Disseminate program information 7
- Program replicability 7
- Program continuation 7

Comments 8

Conclusions 9

Appendix Table of Contents 10

INTRODUCTION

The first step in the preparation of this evaluation was to list the goals and requirements of the program. These were found in the proposal which generated the funding and in the Base-Line Management Plan used to administer the program. Once the list was established, each goal and requirement was individually checked to verify whether it was being accomplished or not. Verification was performed by review of the documentation and by interview of the people involved with the program.

Following is the list of the goals and requirements of the Telecommunication Co-operative Program.

1. Administer program with qualified personnel
2. Establish curriculum
3. Provide supervised work experiences
4. Recruit six to eight co-operative trainees per quarter
5. Provide tools to trainees
6. Provide per diem and travel expenses for co-operative trainees
7. Evaluation of program by employers
8. Review of program by BHIT
9. Place graduates in jobs
10. Provide adequate training resources
11. Disseminate program information
12. Program replicability
13. Program continuation

This evaluation begins with a short description of the program followed by discussions of each of the thirteen goals and requirements listed above. Next is a comments section for information which does not fall neatly under one of the thirteen goals and requirements. This is followed by the conclusion. At the end of the evaluation is an Appendix which contains agreements and forms which are used to administer the program along with other program documentation.

PROGRAM DESCRIPTION

This co-operative program, between Ben Hill - Irwin Technical Institute (BHIT) and area companies, provides telecommunication training that prepares graduates to install, maintain, trouble-shoot, and repair telephone communication systems. The program consists of four quarters of academic training conducted at BHIT and two quarters of on-the-job training provided by area telecommunications companies. A feature of the program is provision of trainee stipends to offset some of the costs of travel and living expenses involved in the on-the-job training. An additional feature is that each trainee is provided with a tool kit which becomes theirs after successful completion of the program.

Program Goals

1. Administer program with qualified personnel

The newly named Program Director, Dan Ellis, has brought organization and direction to the program. In his time on board, the records have been thoroughly updated, and portions of the program which were behind schedule are now on track.

Mr. Ellis reports to John Archer the Director of Institutional Advancement. This organizational scheme provides the program direct visibility at the highest levels within the Institute.

2. Establish curriculum

The curriculum being used is approved by the Georgia Department of Technical and Adult Education. Modifications to the curriculum occur in the following manner. Companies participating in the co-operative program make suggestions to the Lead Instructor who passes these suggestions to the Telecommunications Advisory Committee. This committee then makes curriculum changes. The sequence provides direct industry feedback on the effectiveness of the curriculum. In fact, changes have been successfully made to the state curriculum as a result of the needs identified through BHIT's efforts.

Program Goals (continued)

3. Provide supervised work experiences

Supervised work experiences are presently under way. Eleven trainees are currently in on-the-job training. Weekly evaluation sheets from their employers are on file at BHIT.

4. Recruit six to eight co-operative trainees per quarter

There were seventeen trainees in the existing telecommunication program when the co-operative project was started. Ten of those are currently in the co-operative work portion of the program. One has completed the first quarter of co-op work and has returned to BHIT for the fourth quarter of classroom training. One trainee has been called to active military duty, and five have dropped out of the co-op program.

There are five trainees in the second group. One of those is in the first quarter of co-op work. Four have not been placed with a company.

The third group has eight trainees. None of these trainees yet qualify for co-op work. They have not completed three quarters of classroom work.

Overall there are twenty-five (25) trainees in some stage of the program. This level meets the goals originally set.

5. Provide tools to trainees

A tool kit is issued to each trainee who is accepted into the co-op program. The trainee signs an agreement that the tool kit remains the property of BHIT until a diploma is awarded. Further, the trainee is responsible for replacing lost or broken tools and for returning the compete tool kit if the requirements of the training program are not fulfilled. Copies of the agreement and the tool kit inventory are included in the Appendix.

Program Goals (continued)

6. Provide per diem and travel expenses for trainees

Trainees receive a stipend for each day of co-op work completed with a participating telecommunication company. The employer files a weekly report with BHIT. The report details the hours worked and provides the employer the opportunity to assess the trainees' progress and performance in four areas: dependability, job knowledge, quality of work, and attitude.

The dates for which stipends are awarded and the amounts are kept on a form that is completed by the program coordinator. A copy of the form goes to the Vice President for Administrative Services who maintains an audit trail. Spot checks of the files of the Program Coordinator against those of BHIT administration showed no discrepancies.

7. Evaluation of program by employers

In addition to the opportunity to evaluate each trainee on the weekly report, employers complete a Final Evaluation which lets them give their overall view of the trainee's knowledge and performance. The topics of evaluation include general educational ones such as English and mathematics, the sociological topic of interpersonal relations, and technical topics such as digital and solid state devices, telephony systems, and telecommunication system maintenance. A copy of the Employer's Final Evaluation Form is included in the Appendix.

In addition to the formal report, both the Program Director and Lead Instructor stay in personal touch with the employers and thereby gain informal feedback.

Program Goals (continued)

8. Review of program by BHIT

Evidence that the co-op program is being closely monitored by the administration is demonstrated by the promptness with which the Project Director was replace when it became necessary for him, due to personal problems, to resign his position.

Another instance is shown by the budget requests made in late January, 1991. Due to developing circumstances, the budget did not reflect the realities of the project at this point in its execution. BHIT has asked that excess money under travel be transferred to provide for this evaluation and for a dissemination video tape. A copy of the letter in which the budget changes were requested, along with a copy of the amended budget, are included in the Appendix.

9. Place graduates in jobs

The program started late due to a delay in the availability of the Federal grant money. This has been addressed by requesting an extension of the program to bring its length into line with the original intent. As a result of the delay in program start-up there have been no graduates yet. The indications are, however, that the current employers intend to continue to employ the trainees once their co-op time is completed.

10. Provide adequate training resources

Inspection of the facilities shows a large, equipped laboratory with additional classroom area. The Program Director has a separate office with a desk, file space, and an area to conduct private interviews. The Lead Instructor has similar office space.

Program Goals (continued)

11. Disseminate program information

A brochure has been produced which explains the co-operative program. It matches the "look" of BHIT's other promotional material. The lead instructor is shown on the cover supervising a trainee who is performing a task on a complicated looking piece of equipment. The text inside the brochure fully explains the program and its benefits.

Dr. Ed Greene, President of BHIT, will be making a presentation before the American Technical Education Association's 28th Annual Conference in Atlanta, Georgia on March 15, 1991. Dr. Greene will also be disseminating a project description information packet at the conference. Work is also in progress to publish the program onto ERIC.

12. Program replicability

The Telecommunication Advisory Committee will meet March 22, 1991. At that meeting, representatives from Gwinnet Technical Institute will attend to gather information on how to start a similar program at their institution. The program has generated interest throughout the Georgia Technical Institute system, but this is the first indication of real replication.

13. Program continuation

The co-op program is being institutionalized at BHIT. It will continue past the end of Federal funding. All the current employers have agreed to remain on board, and several additional ones are awaiting eligible trainees.

Several vendors of parts and equipment to the telecommunications industry have agreed, in principle, to fund the cost of the trainee tool kits. The details remain to be worked out. The first step in this process will take place at the Telecommunication Advisory Committee meeting March 22, 1991. The vendors are attending as guests of the Committee. In concert with the Project Coordinator, the Lead Instructor and the members of the Advisory Committee the details of providing tool kits for program trainees will be arranged. The only change in the program after the end of Federal funding will be that there will be no trainee stipends.

COMMENTS

The original project budget lacked provisions for some important project components. This has hampered somewhat the effective implementation of the program. The lack of the budget to provide for a full time coordinator/project director has presented difficulties. Some leadership functions have had to be picked up by other BHIT personnel.

In addition, personal complications kept the original Project Director from fully participating in the progress of the program. The hiring of a new Director has alleviated this problem. Interviews with the associated BHIT personnel show unanimous praise and support for the competency and efforts of the new Project Director. In a recently submitted budget change, BHIT allocated more money to the Project Director position. This will increase the time he can spend in his position and thereby reduce the demands on other BHIT staff members.

There were insufficient funds allocated to the dissemination effort, and no money was allocated for an independent evaluation. These two problems have been addressed in a budget change recently submitted by BHIT.

A further inadequacy of the original proposal is that it does not contain an outline or plan on how the program should be managed. This deficiency was rectified by the generation of a Base-Line Management Plan. A copy of the Plan is included in the Appendix.

CONCLUSIONS

The staff and administration express an enthusiastic belief in the program. The Institute is continuing the program beyond the expiration of Federal money. Employers have openings for eligible trainees to begin on-the-job training.

The records are complete, up-to-date, and organized. The facilities are adequate. The leadership of the Institute has expressed firm backing for the program. The instructors are mature individuals with long experience in their technical fields as well as in the classroom.

All of the above indicate a program which has overcome difficulties to become successful and self-sustaining.

It is the opinion of the evaluators that this program is currently on track and has no serious shortfalls. The minor difficulties that exist are being overcome by the planning, hard work, and enthusiasm of the staff and administration at Ben Hill – Irwin Technical Institute.

APPENDIX

Budget Change Request Letter 1
Revised Budget 3
Student Application 4
Student Tool Agreement 5
Tool Kit Inventory 6
Employer Co-op Agreement 8
Employer Weekly Student Report 10
Employer Final Evaluation Report 11
Base-Line Management Plan 13
Original Proposal Narrative 27

Page Numbers are in the upper right corner of Appendix pages.

A-1

BEN HILL - IRWIN TECHNICAL INSTITUTE

P.O. BOX 1069 * FITZGERALD, GEORGIA 31750 * PHONE 912/468-7487

January 25, 1991

Ms. Constance Tynes
Grants Management Office
400 Maryland Avenue, S.W.
ROB-3, Room 3652
Washington, D.C. 20202-4835

RE: Project V199A00014

Dear Ms. Tynes:

This letter is a result of my telephone conversation with you this date. We are requesting a minor project budget adjustment as described below.

We are asking that we be allowed to move $9,500 from the student travel line item to other lines for the following reasons. Money for project evaluation was not included in the original project budget; therefore, we want to increase the "Other Expenses" line by $2000. The cost of making and producing a professional quality video for project dissemination (Page X of application) was grossly underestimated; we had planned on $2800 - the going rate is $7,500. We want to increase the "Supplies" line item by $4,065 to cover this cost. Since this is a cooperative demonstration project, we feel that emphasis should be placed on project dissemination. Finally, we have underestimated project coordinator time and wish to increase the "salaries" line item by $3,435. The amount presently budgeted for the coordinator will not permit the amount of work to be done to coordinate the video development and dissemination activities required.

Due to five less than planned (25 vs 30) student participants in the project, we will have $9,500 more than needed in the student travel budget line item. We would like to transfer this amount to fund the underestimations described above.

The amount requested for project evaluation will cover total cost, including travel, for an outside team of evaluators. The amount stated for video production includes total expenses for that project.

A revised project budget is enclosed. Thank you for your consideration. Should you have questions regarding this request, please call me at (912) 468-7487.

Sincerely,

John R Archer

John R. Archer
Director of Institutional
Advancement

Peggy H. Tucker

Peggy H. Tucker
Vice President Administrative
Services

Encl

REVISED BUDGET
TELECOMMUNICATIONS

	FEDERAL FUNDS		IN-KIND MATCH	
Salaries				
Project Director				
$3,340 x 18 mos. x 25%	$18,465			
Administrative Assistant				
$1,000 x 18 mos. x 25%	$ 4,500	$22,965		
Full time instructors (2)				
$2,749 x 8 mos.			$21,992	
$2,749 x 103% x 10 mos.			$28,320	
$2,384 x 8 mos.			$19,072	
$2,384 x 103% x 10 mos.			$24,560	
				$93,944
Fringe Benefits				
Workers Comp. Ins. $19,530 x .45%	$ 89			
Workers Comp. Ins. $93,944 x .45%			$ 423	
FICA Ins./Medi-Care $19,530 x 1.45%	$ 284			
FICA Ins./Medi-Care $93,944 x 1.45%			$ 1,363	
Teachers Retirement $93,944 x 13.63%			$12,805	
Health Ins. ($93,944 x 6.3%) + ($25.40 x 2 x 18 mos.)		$ 373	$ 6,833	$21,424
Travel				
Administrative to Washington, D.C.	$ 2,500			
for dissemination of project	$ 4,500			
Institution to coordinate project	$ 1,500	$ 8,500		
Supplies				
Media materials for dissemination	$ 6,865			
Teaching Supplies	$ 700	$ 7,565		
Other costs				
Student tool kits $600 x 30 students	$18,000			
Student travel $75 x 10 students x 12 weeks x 6 quarters	$44,500			
Project Evaluation	$ 2,000	$64,500		
Student Stipend				
52 days x 8 hrs. x $3.35 x 10 students x 6 quarters		$83,616		
Total Direct Charges		$187,519		
Indirect Charges				
$187,519 x 8%		15,002		
Total Project Cost		$202,521		$115,368

Note:
Minimum required in-kind match: $202,521 x 25% = $50,630

BEN HILL-IRWIN TECHNICAL INSTITUTE
TELECOMMUNICATIONS CO-OP PROGRAM
STUDENT APPLICATION

NAME____ SSN______-____-______
Print or Type

ADDRESS____________________________________ TELEPHONE____________

____

____

I hereby apply for admission to the Ben Hill-Irwin Technical Institute Telecommunications Co-op Program. I understand that I must meet and maintain the standards of the program. I also understand that acceptance will not guarantee my placement with a co-op employer.

If offered co-op employment, I agree to:

A. Complete the work hours as required by the employer.

B. Abide by all rules and regulations of the employer.

C. A periodic evaluation of my work by the employer.

D. Provide an evaluation of the work experience as requested by the co-op director.

E. Advise the employer and the co-op project director of any physical, emotional or other problem which will interfere with the performance of my co-op assignment.

Signature________________________________

Date__________________

BEN HILL-IRWIN TECHNICAL INSTITUTE
TELECOMMUNICATIONS CO-OP TRAINING PROGRAM
TOOL AGREEMENT

I _________________________________ have been issued the tool kit
(Print or type full name)
decribed in the attached. I understand the kit is and will remain the property of Ben Hill-Irwin Tech until I receive my diploma. I agree to maintain the inventory of the kit replacing all lost or damaged items as required. I agree to return the complete kit to Ben Hill-Irwin Tech if I fail to complete the requirments of the Telecommunications Training Program.

____________________________________ ________________

Student's Signature Date

BID CONTINUATION SHEET

REQUSITION NO: ________
PAGE NO. 1 OF 2
AGENCY ________

PURCHASING AND SURPLUS PROPERTY DIVISION
200 PIEDMONT AVENUE, S.E., SUITE 1308
ATLANTA, GEORGIA 30335

FOR VENDOR USE ONLY

VENDOR NAME ________

LINE	GCC ITEM AND DESCRIPTION	QTY/UNIT	BRAND AND MODEL OR SERIES	UNIT PRICE	EXTENSION
1	DRILL, YANKEE, WITH BITS KL 64002				
2	PLIERS, DIAG. 5" KL# D245-5				
3	PLIERS, LONG NOSE WITH CUTTER 6" D203-6				
4	SCREWDRIVER SLOT, POCKET 9/64 X 2				
5	SCREWDRIVER, PHILLIPS, POCKET #0				
6	SCREWDRIVER, PHILLIPS #1 603-3				
7	SCREWDRIVER, PHILLIPS #2 603-4				
8	SCREWDRIVER, SLOT 1/4 X 4 602-4				
9	SCREWDRIVER, SLOT 3/16 X 3 601-3				
10	"PUNCH DOWN" TOOL DRACON 714 (FOR 66 TYPE TERMINAL BLOCKS)				
11	WRENCH ADJ. 6" KL# 506-6				
12	TONE TRACER 77M (PROGRESSIVE ELECTRONICS)				
13	LINE AID 200B (PROGRESSIVE ELECTRONICS)				
14	STIPPER, WIRE ADJ. K.MILLER 106				
15	ADAPTOR, MODULAR TO CLIP				
16	DVM, FLUKE 77				
17	SET, TEST, DRACON TS-21				
18	WIRST STRAP WITH 5' CORD AND CLIP 3M2224				
19	CASE, CARRYING, SOFT (SPC # 868) 14 X 11 X 3 1/2				
20	POUCH, TOOL KLEIN #5190				
21	CABLE SPLICERS KIT KLEIN# 46037 (SCISSOR, KNIFE, HOLDER)				

BID CONTINUATION SHEET

REQUSITION NO:
PAGE NO. 2 OF 2
AGENCY

PURCHASING AND SURPLUS PROPERTY
DIVISION
200 PIEDMONT AVENUE, S.E., SUITE 1308
ATLANTA, GEORGIA 30335

FOR VENDOR USE ONLY
VENDOR NAME

LINE ITEM	GCC ITEM AND DESCRIPTION	QTY/UNIT	BRAND AND MODEL OR SERIES	UNIT PRICE	EXTENSION
22	STAPLE GUN ARROW T-25				

BEN HILL-IRWIN TECHNICAL INSTITUTE
TELECOMMUNICATION COOPERATIVE TRAINING PROGRAM
MEMORANDUM OF AGREEMENT

This agreement is made and entered into this ____________ day of ________________, 19____ between Ben Hill-Irwin Technical Institute, hereinafter referred to as "BHIT", and ____________________________ hereinafter referred to as the "Employer".

BEN HILL-IRWIN TECH AGREES TO:

A. Recruit and test applicants against strict criterion.

B. Provide academic and laboratory training in accordance with state approved standards.

C. Provide all administrative activities required to operate the program including all forms, accounting operations, and monitoring requirements.

D. Establish and enforce program rules and procedures.

E. Provide a project director to perform liaison and interface tasks.

THE EMPLOYER AGREES TO:

A. Provide a supervised work experience directly related to the duties of a telecommunications technician.

B. Provide a forty hour or more work week for ten weeks.

C. Provide a reasonable hourly wage.

D. Complete periodic student evaluation reports (forms to be provided by BHIT).

E. Advise and offer program improvement information to BHIT.

F. Allow an occasional visit by BHIT personnel to discuss the students progress and co-op project concerns.

G. Consider the student as a temporary employee and grant him/her all rights and privileges due such an employee by state and federal labor laws.

H. Fully inform the student of all pertinent rules and regulations of the work place.

BHIT AND EMPLOYER AGREE:

A. The employer will retain all rights of dismissal.

B. Release of academic records will be with the consent of the individual student concerned.

C. This agreement may be terminated by either party upon thirty (30) day written notification by either party.

____
BHIT Project Director

____
Date

____
Employer

____
Date

BEN HILL-IRWIN TECHNICAL INSTITUTE
TELECOMMUNICATIONS CO-OP PROGRAM
EMPLOYER'S WEEKLY REPORT

Student________________________________ SSN_____-____-_____

Week Ending (Sat)______________________

Hours of Attendance:

Sun ________ Tues ________ Thur ________ Sat ________

Mon ________ Wed ________ Fri ________

Is the students progress and performance satisfactory at this point in terms of the following: (Circle Yes or No)

(1) dependability?	Yes	No
(2) job knowledge?	Yes	No
(3) quality of work?	Yes	No
(4) attitude?	Yes	No

Remarks ____

____

Has this report been discussed with the student? Yes No

Employer________________________________

Address_________________________________

____

____

Supervisor's
Signature_______________________________

Telephone_______________________________

Date____________________________________

Notice: Please file this report with Ben Hill-Irwin Tech weekly.

Mail to

Ben Hill-Irwin Tech
Telecommunications Co-op Director
P.O. Box 1069
Fitzgerald, GA 31750

BEN HILL-IRWIN TECHNICAL INSTITUTE
TELECOMMUNICATIONS COOPERATIVE TRAINING PROGRAM
EMPLOYER'S FINAL EVALUATION FORM

Co-op Student Name________________________________

Employer____

Please evaluate the student-trainee's knowledge and performance in the following areas comparing him/her with others of comparable academic and experience level and with other personnel assigned to the same or similar classified jobs. (Scale 5-excellent, 4-above average, 3-average, 2-below average, 1-poor)

AREA	KNOWLEDGE	PERFORMANCE
English		
Mathematics		
Interpersonal Relations		
AC and DC Circuits		
Digital and Solid State Devices		
Computer Systems		
Telephony Systems		
Microprocessor Interfacing		
Fiber Optics		
Telecommunications System Installations		
Telecommunications System Maintenance		
Traffic Analysis		
Network Design		

Remarks____

____

____

____

____

____

____

____

____
Evaluator (Print or Type Name)

____
Signature

____
Date

Please prepare this report near the end of the student trainee's work experience and return to:

Ben Hill-Irwin Tech
Telecommunications Co-op Director
P.O. Box 1069
Fitzgerald, GA 31750

A-13

HIGH TECHNOLOGY DEMONSTRATION PROJECT
(V199A00014)
TELECOMMUNICATIONS COOPERATIVE PROGRAM WITH INDUSTRY

BASE-LINE MANAGEMENT PLAN

BEN HILL-IRWIN TECHNICAL INSTITUTE
FITZGERALD, GEORGIA
31750

PRELIMINARY QUARTER, 1989

OCTOBER	NOVEMBER	DECEMBER
Radio/Newspaper/TV advertising (VP, SDS)	Radio/Newspaper/TV advertising (VP, SDS)	Radio/Newspaper/TV advertising (VP, SDS)
Group A begins Telecommunications Program		Develop Telecommunications co-op brochure for students (Admin. Asst.)
		1 Develop Telecommunications co-op brochure for industry (Admin. Asst.)

FIRST QUARTER, 1990

JANUARY

Begin project manual (Bishop)

→ Begin program promotion among Interconnect organizations by direct mail (Bishop/VP, SDS)

Student Recruitment - Radio/TV/Newspaper
Direct mail to:
a) high school guidance counselors
b) labor offices
c) family/children
d) probation officers ?
e) vocational rehabilitation
f) other vocational schools
(VP, SDS)

Appoint project advisory committee (Project Director)

Distribute Telecommunications Co-op brochures to area businesses, industries, schools (Admin. Asst.)

Group B begins Telecommunications Program

FEBRUARY

Radio/Newspaper/TV advertising (VP, SDS)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Attend Interconnect Forum (Bishop)

MARCH

Radio/newspaper/TV advertising (VP, SDS)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Quarterly project staff update (Proj. Dir.)

Quarterly report to USDE (Proj. Dir.)

SECOND QUARTER, 1990

APRIL

Group A students submit application for co-op (Bishop)

Press release (VP, SDS)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Group C begins Telecommunications Program

Group B submits application for co-op

MAY

Attend Interconnect Forum - Atlanta (Bishop)

Press release (VP, SDS)

Direct mail to area high school seniors (VP, SDS)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

JUNE

Parties sign co-op agreement for Groups A and B (VP, Inst.)

Advisory Committee meeting (Proj. Dir.)

Press release on advisory meeting (VP, SDS)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Quarterly project staff update (Proj. Dir.)

Quarterly report to USDE (Proj. Dir.)

Annual Report

THIRD QUARTER, 1990

JULY

Order tools for Groups A and B co-op students (Bishop)

Radio/Newspaper/TV advertising (VP, SDS)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Group C submits application for co-op

Group D begins Telecommunications Program

AUGUST

Radio/Newspaper/TV advertising (VP,SDS)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

SEPTEMBER

Issue tools to Groups A and B co-op students (Bishop)

Attend Interconnect Forum (Bishop)

Radio/Newspaper/TV advertising (VP,SDS)

Direct mail to industry again explaining the success of Telecommunications Program (VP, SDS)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Quarterly project staff update (Proj. Dir.)

Quarterly report to USDE (Proj. Dir.)

Parties sign co-op agreement for Group C (VP, Inst.)

FOURTH QUARTER, 1990

OCTOBER

Group A co-op students begin practicum experience

Press release (VP, SDS)

Bi-monthly per diem issued (VP, Admin. Ser.)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Group B students begin 1st practicum

Order tools for Group C co-op students (Bishop)

Group D submits application for co-op

NOVEMBER

Lead instructor visits work sites (Bishop)

Press release (VP, SDS)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

DECEMBER

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Quarterly project staff update (Proj. Dir.)

Quarterly report to USDE (Proj. Dir.)

Issue tools to Group C co-op students (Bishop)

Parties sign co-op agreement for Group D

FIRST QUARTER, 1991

JANUARY

Groups A and B return to BHIT for 5th and 4thquarter curriculum (VP, Inst.)

Group A and B students/ industries evaluate co-op program (VP, Inst.)

Advisory Committee meeting (Proj. Dir.)

Press release on Advisory Committee meeting (VP, SDS)

Radio/newspaper/TV advertising (VP, SDS)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Group C students begin 1st practicum experience (Bishop)

Order tools for Group D co-op students (Bishop)

FEBRUARY

Radio/newspaper/TV advertising (VP, SDS)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Lead Instructor visits work site (Bishop)

MARCH

Radio/newspaper/TV advertising (VP, SDS)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Quarterly project staff update (Proj. Dir.)

Quarterly report to USDE (Proj. Dir.)

Issue tools to Group D co-op students (Bishop)

SECOND QUARTER, 1991

APRIL

Group A and B co-op students begin second practicum experience (Bishop)

Press release (VP, SDS)

Bi-monthly per diem issued (VP, Admin. Ser.)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Submit request to USDE for extension of project time (Proj. Dir.)

Group C students return to BHIT for fourth quarter curriculum (VP, Inst.)

Group C students/industries evaluate co-op program)VP, Inst.)

Group D co-op students begin first practicum experience

MAY

Begin preparation on video which describes program (Proj. Dir.)

Lead instructor visits work sites (Bishop)

Attend Interconnect Forum (Bishop)

Press release (VP, SDS)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

JUNE

Advisory Committee meeting (Proj. Dir.)

Press release on Advisory Committee meeting (VP, SDS)

Fiscal Accounting ProgramStatus Report (VP, Admin.Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Quarterly project staff update (Proj. Dir.)

Quarterly report to USDE (Proj. Dir.)

Annual Fiscal Report (VP, Admin. Ser.)

Group B students/industries evaluate co-op program (VP, Inst.)

Group B graduates

THIRD QUARTER, 1991

JULY

Group A returns to BHIT for 6th quarter curriculum or OJT (VP, Inst.)

Group A students/industries evaluate co-op program (VP, Inst.)

Radio/Newspaper/TV advertising (VP, SDS)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Group C co-op students begin second practicum experience (Bishop)

Group D students return to BHIT for fourth quarter curriculum

Group D students/industries evaluate co-op program (VP, Inst.)

AUGUST

Radio/Newspaper/TV advertising (VP, SDS)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Lead instructor visits work sites (Bishop)

SEPTEMBER

Group A students graduate (VP, Inst.)

Video completed (Proj. Dir.)

Project manual completed (Bishop)

Attend Interconnect Forum (Bishop)

Press release (VP, SDS)

Radio/Newspaper/TV advertising (VP, SDS)

Fiscal Accounting ProgramStatus Report (VP, Admin.Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Quarterly project staff update (Proj. Dir.)

Quarterly report to USDE (Proj. Dir.)

Group C students/industries evaluate co-op program (VP, Inst.)

Group C graduates

FOURTH QUARTER, 1991

OCTOBER

Press release (VP, SDS)

Bi-monthly per diem issued (VP, Admin. Ser.)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Disseminate video and project manual according to dissemination plan (Proj. Dir.)

Group D co-op students begin second practicum experience (Bishop)

NOVEMBER

Lead instructor visits work sites (Bishop)

Press release (VP, SDS)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Advisory Committee meeting (Proj. Dir.)

DECEMBER

Radio/Newspaper/TV advertising

Fiscal Accounting Pro gramStatus Report (VP, Admin.Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Quarterly project staff update (Proj. Dir.)

Group D students/industries evaluate co-op program (VP, Inst.)

Group D graduates

Final quarterly report to USDE (Proj. Dir.)

FIRST QUARTER, 1992

JANUARY

Group B students return to BHIT for 6th quarter curriculum or OJT (VP. Inst.)

Group B students/industries evaluate co-op program (VP, Inst.)

Group C students return to BHIT for 5th quarter curriculum (VP, Inst.)

Group C students/industries evaluate co-op program (VP, Inst.)

Advisory Committee meeting (Proj. Dir.)

Press release on Advisory Committee meeting (VP, SDS)

Radio/Newspaper/TV advertising (VP, SDS)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

FEBRUARY

Radio/Newspaper/TV advertising (VP, SDS)

Fiscal Accounting Program Status Report (VP, Admin. Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

MARCH

Group B students graduate (VP, Inst.)

Radio/Newspaper/TV advertising (VP, SDS)

Fiscal Accounting Pro gramStatus Report (VP, Admin.Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Quarterly project staff update (Proj. Dir.)

Quarterly report to USDE (Proj. Dir.)

SECOND QUARTER, 1992

APRIL

Attend Interconnect Forum (Bishop)

Press release (VP, SDS)

Group C co-op students begin second practicum experience (Bishop)

Bi-monthly per diem issued (VP, Admin. Ser.)

Fiscal Accounting Pro gramStatus Report (VP, Admin.Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

MAY

Direct mail to high school seniors (VP, SDS)

Fiscal Accounting Pro gramStatus Report (VP, Admin.Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Radio/Newspaper/TV advertising (VP, SDS)

JUNE

Advisory Committee meeting (Proj. Dir.)

Press release on Advisory Committee meeting (VP, SDS)

Fiscal Accounting Pro gramStatus Report (VP, Admin.Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Quarterly project staff update (Proj. Dir.)

Quarterly report to USDE (Proj. Dir.)

Annual Fiscal Report (VP, Admin. Ser.)

THIRD QUARTER, 1992

JULY

Group C returns to BHIT for 6th quarter curriculum or OJT (VP, Inst.)

Group C students/industries evaluate co-op program (VP, Inst.)

Radio/Newspaper/TV advertising (VP, SDS)

Fiscal Accounting ProgramStatus Report (VP, Admin.Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

AUGUST

Radio/Newspaper/TV advertising (VP, SDS)

Fiscal Accounting ProgramStatus Report (VP, Admin.Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

SEPTEMBER

Group C students graduate (VP, Inst.)

Radio/Newspaper/TV advertising (VP, SDS)

Fiscal Accounting ProgramStatus Report (VP, Admin.Serv.)

Issue travel reimbursements (VP, Admin. Serv.)

Salaries/fringe benefits paid (VP, Admin. Serv.)

Quarterly project staff update (Proj. Dir.)

Final quarterly report to USDE (Proj. Dir.)

DEFINITION OF ACRONYMS

Proj. Dir.	Project Director ~~John Ross Archer~~
VP, Admin. Serv.	Vice President, Administrative Services Peggy Tucker
VP, SDS	Vice President, Student Development Services Richard Cargile
VP, Inst.	Vice President of Instruction Diane Collins
Admin. Asst.	Administrative Assistant To be disignated
Bishop	Telecommunications Lead Instructor Glen Bishop
USED	US Department of Educatio

A COOPERATIVE DEMONSTRATION OF HIGH TECHNOLOGY TRAINING IN TELECOMMUNICATIONS

Ben Hill-Irwin Technical Institute (BHIT) and the Georgia Interconnect Association serving south Georgia have designed a program to offer students entering a high technology training program an outstanding opportunity to become licensed as a Low Voltage Technician and subsequently Telecommunications Technician. This proposed cooperative training with industry will provide workers competent in telecommunication installation, equipment, maintenance and trouble-shooting problems of operation, including cable splicing, fiber optics, and switching mechanisms. The reorganization of the telephone companies and the services that they typically provide have created a industry shortage of manpower needed to install and service a wide variety of systems serving the public.

This training program will have a duration of 18 months with two quarters of a variety of practical experience being provided under the supervision of telephone company supervisors. The General Telephone Company, along with other interconnect companies, have assisted in determining the need as well as the skill training program that will assure the graduates of this program will be skilled and competent in this facet of the telecommunications field.

This training program is designed to provide students with practical experiences in a variety of locations and equipment necessary to meet the public need for service for new kinds of equipment and systems that new technology brings. Often this will require special support and arrangements, since these practical opportunities for building skill and competence are away from the student's residence. Evaluation is conducted on each individual's performance and overall program impact by BHIT staff, the project advisory committee and respective industries.

The project will have an evaluation component that will address both quantitative and qualitative measures during, and at the completion of, each quarter of training activity. BHIT, the cooperative industries and the trainees will all participate in the evaluation of the program. Revisions to the training program will be made by the Project Advisory Committee based upon evaluation studies and other information gained from experience.

Dissemination of the project design and accomplishments is planned so that it may be replicated by other interested industries or technical institutes.

TELECOMMUNICATION TRAINING

BEN HILL-IRWIN TECHNICAL INSTITUTE

TABLE OF CONTENTS

I. Background Information

II. Need for Project.

III. Plan of Operation

IV. Quality of Key Personnel

V. Budget Justification.

VI. Evaluation

VII. Adequacy of Resources

VIII. Private Sector Involvement

IX. Employment Opportunities

X. Dissemination

XI. Appendices

  A. Demographic Data

  B. Staff Resume

  C. Budget Summary

  D. Supporting Documents

    1. Assurances

    2. Endorsements

I. BACKGROUND

Through strong local leadership Ben Hill-Irwin Technical Institute was established in the 1960's in south rural Georgia to provide quality vocational education to residents of its service delivery area. Ben Hill-Irwin Tech is one of a network of post-secondary vocational technical schools in Georgia and is located near Fitzgerald, Georgia and serves a six county rural area with a population of over 80,000. Three of the counties served, Telfair, Wilcox, and Turner, are designated by the Governor of Georgia as being "Less Developed". Criteria for this selection are those counties ranking in the lower 25% are: (1) the highest unemployment for the most recent three years; (2) lowest per capita income for the most recent three years; (3) highest percentage of persons in poverty; and (4) average weekly manufacturing wage.

Over 3,000 full-time graduates, and over 25,000 area residents seeking to upgrade their skills through short-term vocational training, have availed themselves of the opportunity offered by BHIT's programs. BHIT graduates have had extraordinary success in being placed into employment with over 85% of the graduates being employed within fifty miles from the facility.

Students training at BHIT generally commute to the facility and may travel up to fifty miles to participate in training offered. This obstacle to some students is abated by a computerized carpool and ridesharing program coordinated by BHIT. BHIT provides over twenty different training programs and operates both day and night training programs. The facility offers adult remedial education to those who wish to improve their reading and writing skills and has established a cooperative Joint Degree Program with Abraham Baldwin Agricultural College.

Ben Hill-Irwin Tech is proud of its distinguished achievements and contributions to the growth and welfare of the communities it serves. The leadership, administrators and faculty, are committed to continue to be on the leading edge of offering skilled workers in areas needed by employers in the surrounding community.

II. NEED FOR THE PROJECT

This cooperative demonstration program jointly developed by staff at BHIT and telephone companies will train skill workers in the telecommunications field. General Telephone Company and Georgia Interconnect Association have entered into a training program with BHIT to provide a high tech training program to students in BHIT's Telecommunication Training. These telephone companies have noted that frequently applicants that apply to them for employment have the personal attributes that make good employees, but lack the skill training to qualify for vacant or new positions. Secondly, the reorganization and changing responsibilities of these companies, and the services they provide, have created a manpower shortage of skilled technicians who can install, trouble-shoot, maintain and repair telephone communication systems including switching mechanisms and the use and installation of fiber optic cable.

Attached in the appendix is a copy of a survey conducted by the National Telecommunications Education Council in 1986. The results of this survey indicate the Southeast region of the United States has the greatest manpower shortage for trained technicians in the field of telecommunications.

New technicians must be competent to provide service to a wide variety of organizations, businesses and residences. To include: public buildings, manufacturers, hospitals, office buildings apartments, and local business to single family residences.

This project will then meet two basic community needs: (1) offering students training in a highly technical area where employment is almost assured for graduates; and (2) provide industry with an opportunity to provide cooperatively skill training experiences that will provide a higher skilled graduate and a smoother transition to employment. Because the industrial manpower shortage and the need for skilled technicians is substantial, employment of graduates from BHIT's cooperative program is almost assured. On a broader scale, the project will serve as a model for future cooperative efforts with other communications companies.

III. PLAN OF OPERATION

The overall supervision and fiscal agent duties of the program will be the responsibility of the Institute's President, Edgar B. Greene. He will devote approximately 5% of his time to the project. The Project Director, John Archer, will devote 10% of his time to the project. The Vice President for Administrative Services, Mrs. Peggy Tucker, will supervise the management of the resources of the project including the administration of grant funds. An Administrative Assistant will contribute 50% of her time to financial support services for the project.

The Project Advisory Committee will assist in reviewing the project progress and will make recommendations for changes or amendments to the projects design or curriculum. Supervision of faculty assigned to the program will be within the institute's organization and lines of authority. A curriculum of the course of study is attached for review in an appendix. Most students will be able to complete the coursework required within eighteen months; however, some additional training for special placement of some students may be necessary when transitioning to an especially sophisticated job placement.

This jointly developed project includes training to provide both basic knowledge and practical application skills to advance the trainees experience to industries entry level of competence. The training curriculum leads to meeting the licensing requirements for a Low Voltage Technician. (A curriculum outline is included in the Appendix). The training program has been designed by staff at BHIT, the Telecommunications Advisory Council, and the cooperative telephone companies. The course will require 18 months for completion, which includes two quarters of practical experience.

The program will include working knowledge of a variety of different switching equipment, hand tools, test equipment, and various telecommunication equipment associated with todays complex systems that interface with a variety of other sophisticated systems.

The telephone companies will provide a variety of supervised experiences for installation, maintenance and repair of telecommunication systems. This practical experience will include: trouble-shooting, installations, utilizing test equipment, line tracing, cable splicing, maintaining and upgrading switching circuitry and panels, identification of circuits, and reporting and record documentation. ✓

Starting wages will be approximately $6-8 per hour with wages advancing substantially after six months to a year of experience. Opportunities for employment far exceed the projected graduates of this program for the foreseeable future. Ben Hill-Irwin Tech projects approximately thirty graduates per year with six to eight trainees per quarter receive practicum experience.

Recruiting for the Telecommunications Training Program will be accomplished cooperatively by BHIT and the cooperative industries. Radio, local newspapers, Institute announcements and contact with other public education programs and public services will be utilized. The industry will refer potential candidates for the program from applicants for employment and others who come to their attention who seek this skill training. Trainees will be provided, with the support of grant funds, the personal tools and safety glasses expected of persons to be employed in these positions. Secondly, grant funds will provide the necessary per diem and transportation costs for trainees to work on-site away from their residences. Also, grant support will provide for the necessary administrative support, training materials and supplies. ✓ ✓

The telephone companies will provide the necessary guidance in practical experience, supervision and evaluation during practicum quarters. The telephone companies to include the interconnect companies will also provide the necessary institutional equipment needed by the Telecommunications Training Program to maintain current industrial standards. ✓

A Project Advisory Committee will meet at least quarterly to assess the programs progress and to make recommendations for enhancing program effectiveness. The Committee will consist of representation from the institute and cooperative industry. Minutes of each meeting will be recorded and will be available for public review.

BHIT will administratively review program progress every six months to assure that its development and quality of training are meeting its standards of performance. Placement of graduates will be the joint responsibility of BHIT and the trainee. The Project Advisory Committee and the cooperative telephone companies will assist in this effort.

The demand for technicians with the skills offered in this program has increased and is unlikely to abate in the near future. Experiences and licensed technicians in the telecommunication field have good futures with the prospect of above average wages and opportunities for advancement or self-employment.

IV. QUALITY OF KEY PERSONNEL

Overall project administration will be the responsibility of Edgar B. Greene, President, Ben Hill-Irwin Technical Institute. Mrs. Peggy Tucker, Vice President for Administrative Services, will supervise the management of the project resources including grant funds. Mr. John Archer, Coordinator of Special Operations, will coordinate the project. A half-time employee will be required to serve as Administrative Assistant to the project, because of the nature, variety and complexity of the individual student training experience, including off-site activities. This additional administrative support will be included in the estimated costs applied to this project proposal to support the added workload of secretarial and accounting support.

The Instructor of the Telecommunications Training Program has outstanding qualifications for the development of this program. he has over twenty years experience in the telecommunications field. His assignments have included plant engineer, circuit design engineer, long lines engineer, national accounts service manager, and voice / data systems consultant. A full resume is in the Appendix of this proposal.

V. BUDGET JUSTIFICATION

This cooperative demonstration with industry requires special support to many of our students who come from low income families and often have no transportation of their own. Project funds will provide the necessary personal hand tools, supplies, and test equipment to meet job requirements, per diem costs and transportation to practicum (work sites) locations when away from their home communities. In addition, personal safety equipment will be provided when required off the facility grounds where practical experience is completed. Grant support will be needed to provide travel and per diem to staff of BHIT to maintain ties with cooperative industries, and to periodically meet with the granting agency on the projects progress. Funding will also be required to implement a dissemination plan described with this proposal. A budget summary sheet is attached in the Appendix.

VI. EVALUATION OF THE PROJECT

Project evaluation will focus on quanitative and qualitative measures in determining overall project impact, as well as individual student progress and performance. Individual student performance during the academic experience will be measured by academic standards progress used by the school. Performance during the practicum phase will be measured by the practicum supervisor utilizing the Student Evaluation Form at Appendix ___.

The project advisory committee will bear the responsibility of overall project evaluation and will utilize the criteria listed below to formulate the evaluation. Based on the review of evaluation criteria, the committee will make recommendations for program changes and improvements to the project director. The committees' recommendations will be included in the minutes of each committee meetings, and will be made a part of the project records.

Quantitative Measures (Per report period) Qtr/Yr

Number of new trainees entering program.
Number of trainees graduated.
Number and percent of trainees that become employed at above minimum wage.
Number of graduates employed in telecommunications.
Number of graduates retained in employment after six (6) months.
Average cost per trainee.
Average weekly starting wage.
Percent of utilization of training program.

Qualitative Measures Qtr/Yr

Supervisor evaluation of individual performance.
Graduates evaluation of training program.
Industry evaluation of program.
Faculty review of program.

VII. ADEQUACY OF RESOURCES

Ben Hill-Irwin Tech is a modern plant that has been expanded and well maintained since its establishment in the early 1960's. Each training program was established only after extensive community survey to determine manpower current and projected needs for the service delivery and adjacent areas. Industrial advisory committees meet at least quarterly to assure the appropriateness of the training experience and provide needed feed back to the Institute and its faculty.

The facility is accessible to the handicapped; approximately 20 percent of the trainees are black; and about 50 percent of the trainees are women. Hiring practices comply with state and federal laws concerning non-discrimination.

VIII. PRIVATE SECTOR INVOLVEMENT

BHIT has a long established record of cooperating with industries within and adjacent to its service delivery area. However, this project will require a much closer working relationship. This will be done through industrial representation on the project Advisory Council, industrial supervision of trainees during practicum, and industrial evaluation and training reports.

Industry will be providing a variety of work sites that will be used by trainees. On-site equipment will be provided as needed to accomplish the tasks assigned. This project evolved from, and is strongly supported by, the Program Advisory Council.

IX. EMPLOYMENT OPPORTUNITIES

Ben Hill Irwin Technical Institute has achieved an outstanding placement record of its completing trainees. Over 86% of all graduate trainees have been employed within a 50 mile radius of the service delivery area. The attached letters of endorsement further support industries desire for skilled telecommunication technicians, especially in the Southeast Region of the United States.

X. DISSEMINATION

The Telecommunications Training Project has a plan of dissemination of its progress and accomplishments. Both the cooperative telephone industries and BHIT will be actively addressing the project activities. This will be done in a variety of ways. Local media will be used to share with the communities in the service delivery area information about the program. A program summary will be submitted to appropriate telecommunication periodicals. The projects progress will be shared with the state technical institute network and presentations will be made at workshops and conferences on a regional and national basis as appropriate opportunities occur.

The project is replicable in almost every part of the United States with cooperative local and long line telephone companies. According to the survey conducted by the National Telecommunications Education Council, the Pacific Coast Region of the United States has next greatest need for telecommunication technicians.

BHIT will be using a planned approach of dissemination of the projects progress and accomplishments through a variety of means: (1) BHIT's Project Advisory Committee will be involved and informed (2) Press releases to the media will be used to promote the program to the public and surrounding industry (3) the State technical institute network of training facilities will be informed of the projects progress and accomplishments through training conferences and memorandum (4) appropriate national and training institutions will be provided with information of the project and how they may replicate the project; and finally guides will be developed to provide a step-by-step approach to establishing a similar program. This effort will be supplemented to video tape or other appropriate media that will be supportive to this goal.

High Technology Demonstration Project

V199A00014

Telecommunications Co-operative Program With Industry

US Department of Education

Office of Vocational and Adult Education

Program Final Evaluation

Ben Hill – Irwin Technical Institute
Fitzgerald, Georgia 31750

January 10, 1992

Prepared by
Polaris Corporation
2320 East North Street
Greenville, SC 29607

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TABLE OF CONTENTS

Introduction 2

Program Description 3

Program Goals 3

- Administer program with qualified personnel 3
- Establish curriculum 3
- Provide supervised work experiences 4
- Recruit six to eight co-operative trainees per quarter 4
- Provide tools to trainees 4
- Provide per diem and travel expenses for trainees 5
- Evaluation of program by employers 5
- Review of program by BHIT 6
- Place graduates in jobs 6
- Provide adequate training resources 6
- Disseminate program information 7
- Program replicability 7
- Program continuation 7

Comment 8

Conclusion 8

INTRODUCTION

In March of 1991 an evaluation of the program-in-progress was performed. This document is an update of that interim report. Those paragraphs that have been modified or updated are noted by a bar in the right margin. For example, this paragraph was not in the original, therefore there is a bar in the right margin.

The first step in the preparation of this evaluation was to list the goals and requirements of the program. These were found in the proposal which generated the funding and in the Base-Line Management Plan used to administer the program. Once the list was established, each goal and requirement was individually checked to verify whether it was accomplished or not. Verification was performed by review of the documentation and by interview of the people involved with the program.

Following is the list of the goals and requirements of the Telecommunication Co-operative Program.

1. Administer program with qualified personnel
2. Establish curriculum
3. Provide supervised work experiences
4. Recruit six to eight co-operative trainees per quarter
5. Provide tools to trainees
6. Provide per diem and travel expenses for co-operative trainees
7. Evaluation of program by employers
8. Review of program by BHIT
9. Place graduates in jobs
10. Provide adequate training resources
11. Disseminate program information
12. Program replicability
13. Program continuation

This evaluation begins with a short description of the program followed by discussions of each of the thirteen goals and requirements listed above. Next is a comments section for information which does not fall neatly under one of the thirteen goals and requirements. This is followed by the conclusion.

PROGRAM DESCRIPTION

This co-operative program, between Ben Hill - Irwin Technical Institute (BHIT) and area companies, provides telecommunication training that prepares graduates to install, maintain, trouble-shoot, and repair telephone communication systems. The program consists of four quarters of academic training conducted at BHIT and two quarters of on-the-job training provided by area telecommunications companies. A feature of the program is provision of trainee stipends to offset some of the costs of travel and living expenses involved in the on-the-job training. An additional feature is that each trainee is provided with a tool kit which becomes theirs after successful completion of the program.

Program Goals

1. Administer program with qualified personnel

The Program Director, Bill Ellis, possesses the qualifications, background, and experience necessary for the position. The success of the program is evidence that a properly qualified person is acting as program administrator.

Mr. Ellis reports to John Archer the Director of Student Services. This organizational scheme provides the program direct visibility at the highest levels within the Institute.

2. Establish curriculum

The curriculum being used is approved by the Georgia Department of Technical and Adult Education. Modifications to the curriculum occur in the following manner. Companies participating in the co-operative program make suggestions to the Lead Instructor who passes these suggestions to the Telecommunications Advisory Committee. This committee then makes curriculum changes. The sequence provides direct industry feedback on the effectiveness of the curriculum. In fact, changes have been successfully made to the state curriculum as a result of the needs identified through BHIT's efforts.

Program Goals (continued)

3. Provide supervised work experiences

Twenty-two trainees participated in supervised work experience lasting at least one academic quarter. Weekly evaluation sheets from their employers are on file at BHIT.

4. Recruit six to eight co-operative trainees per quarter

The goal of recruiting six to eight trainees per quarter has been met. Attrition due to various reasons reduce the number of trainees actually participating in work experience and gaining diplomas, but the recruitment goal has been met.

5. Provide tools to trainees

A tool kit is issued to each trainee who is accepted into the co-op program. The trainee signs an agreement that the tool kit remains the property of BHIT until a diploma is awarded. Further, the trainee is responsible for replacing lost or broken tools and for returning the compete tool kit if the requirements of the training program are not fulfilled.

Program Goals (continued)

6. Provide per diem and travel expenses for trainees

Trainees receive a stipend for each day of co-op work completed with a participating telecommunication company. The employer files a weekly report with BHIT. The report details the hours worked and provides the employer the opportunity to assess the trainees' progress and performance in seven areas: dependability, job knowledge, quality of work, appearance, job planning, and attitude (this is a change from four areas on the original report).

The dates for which stipends are awarded and the amounts are kept on a form that is completed by the program coordinator. A copy of the form goes to the Vice President for Administrative Services who maintains an audit trail. Spot checks of the files of the Program Coordinator against those of BHIT administration showed no discrepancies.

7. Evaluation of program by employers

In addition to the opportunity to evaluate each trainee on the weekly report, employers complete a Final Evaluation which lets them give their overall view of the trainee's knowledge and performance. The topics of evaluation include general educational ones such as English and mathematics, the sociological topic of interpersonal relations, and technical topics such as digital and solid state devices, telephony systems, and telecommunication system maintenance.

In addition to the formal report, both the Program Director and Lead Instructor stay in personal touch with the employers and thereby gain informal feedback.

Program Goals (continued)

8. Review of program by BHIT

Evidence that the co-op program is being closely monitored by the administration is demonstrated by the promptness with which the Project Director was replaced when it became necessary for him, due to personal problems, to resign his position.

Another instance is shown by the budget requests made in late January, 1991. Due to developing circumstances, the budget did not reflect the realities of the project at this point in its execution. BHIT has asked that excess money under travel be transferred to provide for this evaluation and for a dissemination video tape.

The process of program review continues. A thoughtful and thorough final report has been drafted by BHIT in which the evolution of the program from the original plan to its current working success is outlined. Also included are the lessons that have been learned during the implementation of the program.

9. Place graduates in jobs

Twenty-six trainees earned diplomas during the course of this project. Of these, twenty-two were placed in telecommunication-related jobs. The remaining four were not placed in jobs due to reasons that were beyond the control of BHIT.

10. Provide adequate training resources

Inspection of the facilities shows a large, equipped laboratory with additional classroom area. The Program Director has a separate office with a desk, file space, and an area to conduct private interviews. The Lead Instructor has similar office space.

Program Goals (continued)

11. Disseminate program information

Dr. Ed Greene, President of BHIT, made a presentation on the program before the American Technical Education Association's 28th Annual Conference in Atlanta, Georgia on March 15, 1991. A presentation on the project was also made at the Annual Conference of the Georgia Vocational Association in December of 1991. A project description information packet was distributed at both conferences.

Copies of the final report are being sent to the ERIC Clearinghouse on Adult, Career and Vocational Education as well as to each of the six regional Curriculum Coordination Centers of the National Network for Curriculum Coordination in Vocational-Technical Education. A six-minute video tape has been produced and will be provided to the Curriculum Coordination Centers to supplement the final report.

12. Program replicability

The factors that made this program work at BHIT are not unique to this institution or to its geographical area or demographic makeup; therefore, the program should be reproducible in other areas.

13. Program continuation

The co-op program is being institutionalized at BHIT. It will continue past the end of Federal funding. Most of the current employers have agreed to remain on board, and several additional ones have agreed to take on eligible trainees as soon as economic conditions improve.

Several vendors of parts and equipment to the telecommunications industry have agreed, in principle, to fund the cost of the trainee tool kits. Together with the Project Coordinator, the Lead Instructor and members of the Advisory Committee the details of providing tool kits for program trainees will be arranged. After the end of Federal funding there will be no trainee stipends. A system of on-the-job training is being pursued as an alternative.

COMMENT

The interim evaluation commented on several problem areas. Each of these areas has been addressed and overcome with a positive and vigorous team effort by the administration of BHIT and the project director.

CONCLUSION

During the course of the project, each of its thirteen goals has been met. Therefore, it is the opinion of the evaluators that this program accomplished its purpose.

SUPPLEMENT #14

PROJECT DESCRIPTION

TELECOMMUNICATIONS COOPERATIVE TRAINING PROGRAM

A Cooperative Demonstration Project
(High Technology)

Project Number V199A0001490

Funded by:
Office of Vocational and Adult Education,
U.S. Department of Education

Prepared by:
Ben Hill-Irwin Technical Institute
P.O. Box 1069
Fitzgerald, Georgia 31750

BEST COPY AVAILABLE

PROJECT OVERVIEW

Research has indicated that telephone companies throughout the southeastern United States have stated that individuals making application for employment with telecommunications companies frequently possess the personal attributes that make good employees, but they most often lack the training or the skills necessary to qualify for vacant or new positions. As a result of this circumstance, many companies are required to invest significant amounts of time and money in equipping new employees with basic, entry-level skills. In fact, a survey conducted in 1986 by the National Telecommunications Education Council indicated that the southeastern United States had the greatest shortage of trained technicians in the entire field of telecommunications.

In 1989 the Georgia Interconnect Association (GIA) told Ben Hill-Irwin Technical Institute (BHIT) that new technicians must be competently skilled to provide services to a wide variety of clientele to include manufacturers, hospitals, office buildings, apartment complexes, businesses, and single family dwellings. GIA told BHIT also that the reorganization and changing environment of the telephone companies and the services they are expected to provide have exacerbated the problem of unskilled technicians who are expected to install, trouble-shoot, maintain, and repair telephone systems. In consideration of the dynamically sophisticated switching mechanisms now in use and of the advent of fiber optical equipment, the need for skilled, entry-level technicians takes on even greater significance.

BHIT began operating a Telecommunications Technology Program in the fall of 1988. In view of the information generated by the National Telecommunications Education Council survey and the GIA, BHIT became very much aware of the role the school should play in finding a solution to this problem. It was obvious to the school's leadership that a partnership with the telecommunications industry could go a long way toward the resolution of the problem. In 1989 BHIT set about the task of determining how to approach such a partnership. Providing skilled, entry-level technicians would certainly alleviate part of the telecommunication industry's problem, but there remained the problem of creating a marriage between Telecommunications Technology Program graduates and employers.

The school concluded that a cooperative project with the telecommunications industry, partially funded by an outside agency, would enable BHIT to provide students with practical work place experience combined with classroom and laboratory training. The school believed this approach would serve the needs of all three entities: employers would have access to skilled entry-level technicians, program graduates would have a source of potential employers, and BHIT would have access to industry feedback to keep curriculum current. To that end BHIT took the next step toward problem resolution by applying for and winning a cooperative demonstration grant from the US Department of Education. Following is a description of the project design and implementation.

PROJECT DESCRIPTION

Design

Jointly designed and developed by BHIT and the GIA, the project included training to impart basic knowledge and practical application skills to students. The curriculum included all necessary requirements for licensing a graduate as a network technician. It included also a working knowledge of switching equipment, hand tools, test equipment, and a variety of equipment used throughout the telecommunications industry in conjunction with complex telecommunications systems (See Program Guide in Appendices). The practical work place experience phase of the training was designed to provide students with work place experience supervised by industry employers.

To compensate for the added expense of relocating to a cooperative work place site for the practical experience training, a stipend and a limited travel allowance were paid to students. Each student was paid $3.35 per hour for a maximum of 40 hours per week not to exceed ten weeks, and each was allowed up to $75 per week to help defray travel expenses.

The program consisted of four quarters of academic training at BHIT and two quarters of practical work experience with a participating telecommunications company. Academic training followed instructional standards prescribed by the Georgia Department of Technical and Adult Education. Students who successfully complete the four quarters of academic training were awarded the Telecommunications Technology Program diploma. Practical work place training was controlled by the participating employer and generally consisted of work for which the employer had contracted with a client.

The sequence in which students progressed through academic and practical experience quarters was made as flexible as possible. Students became eligible for the co-op project upon completing their third academic quarter in the Telecommunications Technology Program with a grade point average of 3.0 or better. Upon completion of the third academic quarter, the student had three options: (1) co-op one quarter, return to school for the fourth academic quarter, then co-op for another quarter and graduate; (2) co-op two quarters back-to-back, return to school to complete the fourth academic quarter and graduate; or (3) complete all four academic quarters, co-op for two quarters and graduate.

Although a fourth option was not a part of the project design, a student, having completed three academic quarters followed by two co-op quarters, could elect to take permanent employment with the participating employer without graduating from school. This choice did not become a problem during the project.

Benefits to Participants

Industry

1. Student program graduates have gained work experience desired by employers.
2. The project enhanced employee retention; students have had an opportunity to determine whether their chosen occupation was the correct choice.
3. The project created a pool of skilled potential employees for telephone companies.
4. Employers have been able to reduce training time and cost for new employees.
5. Employers have had an opportunity to evaluate as potential full-time employees student participants working for them.
6. Employers have had an opportunity to provide feedback to BHIT to ensure that the academic curriculum has met industry needs.

BHIT

1. The school now has a pool of participating employers to hire program graduates and perpetuate the co-op program.
2. Employer feedback has enabled the school to improve the curriculum and the co-op program effort continually.

The Students

1. The grant has permitted financial support to students during the co-op phases of the project that eased the burden of added living expenses.
2. The grant has provided a tool kit to each student participant, a necessity for entry-level workers entering the telecommunications industry for the first time.
3. The project has established a pool of potential employers for program graduates.

4. The academic and practical work experience gained by the student participants has enhanced their employability.

Participant Responsibilities

BHIT

1. Recruit and select student participants.
2. Provide academic and laboratory training in compliance with standards set forth by the Georgia Department of Technical and Adult Education.
3. Provide all administrative activities required to operate the project in compliance with USDE rules and regulations.
4. Handle payment of stipend and travel entitlements.
5. Establish and comply with local project rules and procedures.
6. Purchase and issue student tool kits.
7. Handle all financial, accounting, and audit requirements established by federal, state, and local board entities.
8. Recruit and secure participation agreements with industry.

Industry

1. Provide supervised work experience directly related to the duties of a telecommunications technician.
2. Provide an eight hour work day for each student.
3. Pay students a reasonable entry-level wage.
4. Complete a periodic student evaluation and performance report.
5. Provide program feedback to BHIT.
6. Cooperate with the project director in the conduct of his duties and responsibilities.

Students

1. Maintain satisfactory academic progress and employer performance evaluations.

2. Comply with employer rules and procedures.

3. Comply with locally generated project rules and procedures.

Administration

Staff

Project Director. The project director was employed on a half-time basis (20 hours per week) and reported to the Director of Institutional Advancement. His principal duties were the supervision and coordination of all project activities. His salary was funded by the grant. Qualifications considered for the position included experience in the telecommunications industry, good management and organizational skills, and good interpersonal relationship skills.

Clerical Support. A clerk-typist was employed ten hours per week to support the project director. Her salary was paid by the grant.

Vice President of Administrative Services. The vice president of administrative services was assigned financial, accounting, and audit responsibilities for the project; and she ensured compliance with federal, state, and local fiscal regulations. The cost of her services and those of her staff were considered a part of the indirect cost of the grant.

Vice President of Instruction. Two members of the staff of the vice president of instruction, both instructors in the Telecommunications Technology program, provided the academic training of student participants. Their salaries were provided as matching in-kind funds for the project.

Director of Institutional Advancement. The director of institutional advancement, having overall responsibility for all grants in which the school participates, devoted approximately 15 percent of his time to the project. A portion of his salary was considered indirect project cost.

Budget

Since the project was a cooperative demonstration effort, the grantor required that 25 percent of the project cost by borne by the school. Total project cost was $317,889. The grantor incurred $202,521 of the cost; and BHIT assumed responsibility for $115,368 in remaining costs. The school's share, which exceeded the 25 percent requirement, was all in the form of in-kind services. A copy of the project budget may be seen at Appendix C, of Supplement #1.

Records

The project director maintained complete project and individual student participant files. Files established and maintained included, but were not limited to, student application and allied forms, stipend and travel vouchers and payments, student and employer evaluation and performance reports, employer and USDE correspondence files, advertising activities and materials, public relations activities and materials, and budget activities.

Project Evaluation

Grant regulations required an evaluation of the project by an outside agency to ensure compliance with the base-line management plan of the grant. Cost of the evaluation was included in the federal share of funding.

IMPLEMENTATION

Student Recruitment

Students desiring to participate in the co-op program must have met four requirements: (1) a demonstrated willingness to comply with project rules and procedures, (2) attain a GPA of 3.0 or better, (3) complete the third quarter of academic instruction, and (4) a recommendation from the program faculty.

The first two groups of co-op students were selected from those who were already in the telecommunications program and who met these requirements. Subsequently, each quarter during the project period, third quarter students were given an orientation on the co-op program. Interested students were asked to complete an application package that included an agreement to abide by the rules and procedures of the project. Once the package was completed, the students were considered project participants. A copy of the forms used in the student orientation may be seen in the Appendices.

Employer Recruitment

Advertising. A brochure and a project description booklet were developed. Brochures were mailed to each of the 320 members of the GIA. Members expressing an interest in the project were sent a project description booklet and were invited to participate in the project. When possible, the respondent received a follow-up visit or telephone call from the project director. In addition, the president of the GIA included flyers encouraging support of the program, in his periodic newsletter to members.

Telephone Solicitation. Potential employers known to staff members of the school were telephoned to discuss the project. The contacts received appropriate follow-up by the staff member of the project director. Additionally, an extensive telephone solicitation was initiated by the project director to contact companies advertising for technicians in trade magazines and newspapers. The search also included companies listed in the telephone books of major cities in Georgia and surrounding states. Where interest was shown, the brochure and project description were mailed to the company and, where possible, a visit was scheduled to discuss the project further.

Follow-up. A data base file for potential employers was established and computerized. This data base was used to provide a means of insuring follow-up with all employers expressing interest in the program.

Student Placement

Student interviews were scheduled with prospective employers who had agreed to participate in the project. When possible, transportation to interviews was provided by the school; and the students were accompanied by the project director. In some instances students made their own appointments and provided their own transportation. This practice was not discouraged.

Advisory Committee

A project advisory committee - made up of industry representatives, the project director, and the lead program instructor - was established early in the project. The committee's principal responsibilities were to provide feedback to the project staff and to make recommendations for program and project improvement. The advice of the committee is particularly important in making the program curriculum relevant to the needs of industry. The advice and guidance was shared with the State Department of Technical and Adult Education for consideration of future curriculum changes.

While students were not a part of the advisory committee, they were surveyed for information that could be used to improve the project; their input was treated with the same interest as that accorded to the committee. To gain the full benefit of their experience, students were surveyed after having at least one quarter of co-op experience.

PROJECT OUTCOMES

Student Statistics

A total of 32 students met the requirements and were accepted into the co-op program in four different groups. This was in keeping with our goal to accept 6 to 8 students per quarter. Of the 32 who were selected the following resulted:

(1) 26 completed 4 academic quarters and were awarded diplomas.
(2) 22 were placed and completed at least one quarter of co-op at wages above the minimum.
(3) 2 elected to continue their education at college level.
(4) 2 accepted positions in unrelated fields.
(5) 6 were not placed in co-op or were dropped from the program for various reasons.
(6) Average weekly starting wage was $7.35 per hour.

Employer Participation

Of the 18 companies that executed participation agreements with the school, 14 actually employed co-op students. Many others expressed interest in, and support for, the program but were unable to hire students because of the down-turn in the economy just at the time that most of the students were available.

Constant cultivation of potential prospects will extend into the foreseeable future to ensure project continuation after the end of the project period.

The Value of Seed Money

This grant has demonstrated the value of "seed money" in establishing a cooperative project with industry. Without funds provided by the grantor, it is very unlikely that students could have afforded to relocate significant distances from their home and school to participate in the practical experience phase of the project. Nor could many of the students have afforded to purchase the tools necessary to begin employment in the telecommunications industry.

Project Evaluation

An interim evaluation was conducted by the Polaris Corporation in March of 1991. The interim evaluation identified some initial minor difficulties in implementing the program but concluded that they had been overcome and that "this program is currently on track and has no serious shortfalls." A final evaluation will be prepared subsequent to the completion of the project.

LESSONS LEARNED

Project Director

The project director must be a full-time employee. In fact, a good argument could be made for two full-time administrators. Target companies are scattered over a large geographical area; contacting them all person to person is not possible with one part-time project director. As a result, follow-up was not effected with over 100 telephone contacts made with telecommunications companies; this unhappy circumstance probably resulted in missed recruiting opportunities.

Geography

The employer target area is much too large to be covered by one part-time coordinator. Industry participants in the neighboring states of Alabama and Florida could have been developed had the project been staffed sufficiently.

Budget

Several budget items were underestimated in the project design. Monies requested for the production of a video description of the project, project director salary, and dissemination activities were insufficient to meet project needs. This circumstance necessitated an amendment to the original budget.

Student Resistance to Move

Family relationships in small South Georgia communities are very close and parents tend to be somewhat protective of their children. Although all students were advised that they would be required to take co-op positions away from the local area, when it came time for them to move, many declined to do so. This resulted in difficulty (in some cases impossibility) in placing some of the participating students.

PROJECT REPLICATION AND DISSEMINATION

Replication

This project demonstrates how to establish a telecommunications cooperative training program between a post-secondary educational institution and cooperating telecommunications companies. The program is designed to be replicated by any post-secondary vocational technical school.

Dissemination

USDE Requirements

USDE required that two copies of the final performance report be sent to USDE, two copies to the ERIC Clearinghouse on Adult, Career and Vocational Education and two copies to each of the six regional Curriculum Coordination Centers of the National Network for Curriculum Coordination in Vocational-Technical Education (NNCCVTE).

BHIT Initiatives

BHIT felt it appropriate to make a project presentation to the 28th National Conference of the American Technical Education Association and the Annual Conference of the Georgia Vocational Association. Copies of the project description document were provided at each of the conferences.

BHIT Contact Person

John R. Archer
Vice President of Student Services
Ben Hill-Irwin Technical Institute
P.O. Box 1069
Fitzgerald, Georgia 31750

DISCLOSURE OF FEDERAL FUNDING

The dollar amount of federal funding for this project was $202,521; 64 percent of the total cost of the project was financed with federal funds.

APPENDICES

TELECOMMUNICATIONS TECHNOLOGY
PROGRAM GUIDE

COURSE	CLASS HOURS	LAB HOURS	TOTAL CLOCK HOURS	CREDIT HOURS
First Quarter				
TEL 101 D.C. Circuits	26	26	52	5
TEL 102 A.C. Circuits	26	26	52	5
TEL 103 Digital Devices	40	12	52	5
TEL 104 Solid State Devices	40	12	52	5
MAT 103 Algebraic Concepts	52	0	52	5
MAT 104 Geometry and Trigonometry	52	0	52	5
Second Quarter				
TEL 106 Basic Telephony Skills	26	26	52	4
TEL 107 Cable Installation	26	26	52	3
TEL 108 Telephone System Installation	26	26	52	4
TEL 109 Troubleshooting & Repair	26	26	52	4
TEL 105 Computer Fundamentals	52	0	52	4
Third Quarter				
ENG 101 English	40	12	52	5
TEL 110 Basic Telecommunication Concepts	40	12	52	4
TEL 111 Data Communications	40	12	52	6
TEL 112 Digital Telephony	40	12	52	6
TEL 114 Microprocessor Interfacing	40	12	52	5
TEL 115 Basic Analog Communications	26	26	52	3
Fourth Quarter				
TEL 116 Fiber Optics	40	12	52	5
PSY 100 Interpersonal Relations and Professional Development	52	0	52	3
XXX XXX Elective	52	0	52	5
TEL 113 System Installation & Testing	26	26	52	4
TEL 117 Traffic Analysis	52	0	52	3
TEL 118 Network Design Fundamentals	52	0	52	4

Total Credit Hours: 102
Total Clock Hours: 1248

REVISED BUDGET
TELECOMMUNICATIONS

VI99A00014

	FEDERAL FUNDS		IN-KIND MATCH	
Salaries				
Project Director				
* $3,340 x 18 mos. x 25%	$18,465			
Administrative Assistant				
$1,000 x 18 mos. x 25%	$ 4,500	$22,965		
Full time instructors (2)				
$2,749 x 8 mos.			$21,992	
* $2,749 x 103% x 10 mos.			$28,320	
$2,384 x 8 mos.			$19,072	
* $2,384 x 103% x 10 mos.			$24,560	
				$93,944
Fringe Benefits				
* Workers Comp. Ins. $19,530 x .45%	$ 89			
* Workers Comp. Ins. $93,944 x .45%			$ 423	
* FICA Ins./Medi-Care $19,530 x 1.45%	$ 284			
* FICA Ins./Medi-Care $93,944 x 1.45%			$ 1,363	
* Teachers Retirement $93,944 x 13.63%			$12,805	
* Health Ins. ($93,944 x 6.3%) + ($25.40 x 2 x 18 mos.)		$ 373	$ 6,833	$21,424
Travel				
Administrative to Washington, D.C.	$ 2,500			
* for dissemination of project	$ 4,500			
Institution to coordinate project	$ 1,500	$ 8,500		
Supplies				
* Media materials for dissemination	$ 6,865			
Teaching Supplies	$ 700	$ 7,565		
Other costs				
Student tool kits $600 x 30 students	$18,000			
* Student travel $75 x 10 students x 12 weeks x 6 quarters	$44,500			
* Project Evaluation	$ 2,000	$64,500		
* Student Stipend				
52 days x 8 hrs. x $3.35 x 10 students x 6 quarters		$83,616		
Total Direct Charges		$187,519		
* Indirect Charges				
$187,519 x 8%		15,002		
Total Project Cost		$202,521		$115,363

Note:
Minimum required in-kind match: $202,521 x 25% = $50,630

*Line items that funds will come from the fund extension activities.

BEST COPY AVAILABLE

TRAINING AGREEMENT

The training agreement outlines the basic responsibilities of both BHIT and the cooperating employer. The agreement may be modified to suit special situations

The student application form covers the students training agreement.

BEN HILL-IRWIN TECHNICAL INSTITUTE
TELECOMMUNICATION COOPERATIVE TRAINING PROGRAM
MEMORANDUM OF AGREEMENT

This agreement is made and entered into this ____________ day of ________________, 19____ between Ben Hill-Irwin Technical Institute, hereinafter referred to as "BHIT", and ______________________________ hereinafter referred to as the "Employer".

BEN HILL-IRWIN TECH AGREES TO:

A. Recruit and test applicants against strict criterion.

B. Provide academic and laboratory training in accordance with state approved standards.

C. Provide all administrative activities required to operate the program including all forms, accounting operations, and monitoring requirements.

D. Establish and enforce program rules and procedures.

E. Provide a project director to perform liaison and interface tasks.

THE EMPLOYER AGREES TO:

A. Provide a supervised work experience directly related to the duties of a telecommunications technician.

B. Provide a forty hour or more work week for ten weeks.

C. Provide a reasonable hourly wage.

D. Complete periodic student evaluation reports (forms to be provided by BHIT).

E. Advise and offer program improvement information to BHIT.

F. Allow an occasional visit by BHIT personnel to discuss the students progress and co-op project concerns.

G. Consider the student as a temporary employee and grant him/her all rights and privileges due such an employee by state and federal labor laws.

H. Fully inform the student of all pertinent rules and regulations of the work place.

BHIT AND EMPLOYER AGREE:

A. The employer will retain all rights of dismissal.

B. Release of academic records will be with the consent of the individual student concerned.

C. This agreement may be terminated by either party upon thirty (30) day written notification by either party.

____
BHIT Project Director

____
Date

____
Employer

____
Date

BEN HILL-IRWIN TECHNICAL INSTITUTE
TELECOMMUNICATIONS CO-OP PROGRAM
STUDENT APPLICATION

NAME________________________________ SSN_____-____-_____
Print or Type

ADDRESS______________________________ TELEPHONE__________

____

____

I hereby apply for admission to the Ben Hill-Irwin Technical Institute Telecommunications Co-op Program. I understand that I must meet and maintain the standards of the program. I also understand that acceptance will not guarantee my placement with a co-op employer.

If offered co-op employment, I agree to:

A. Complete the work hours as required by the employer.

B. Abide by all rules and regulations of the employer.

C. A periodic evaluation of my work by the employer.

D. Provide an evaluation of the work experience as requested by the co-op director.

E. Advise the employer and the co-op project director of any physical, emotional or other problem which will interfere with the performance of my co-op assignment.

Signature______________________________

Date________________

EMPLOYERS WEEKLY REPORT

The Weekly Report form allows Ben Hill-Irwin Tech to track the progress and performance of the student during the on-the-job quarter.

The student will enter his/her name and social security number on the form and give it to his/her supervisor on a weekly basis. The employers designated representative, usually the students direct supervisor, should complete the form, review it with the student and mail promptly to Ben Hill-Irwin Tech.

BEN HILL-IRWIN TECHNICAL INSTITUTE
TELECOMMUNICATIONS CO-OP PROGRAM
EMPLOYER'S WEEKLY REPORT

Student ______________________________ Week ending (Sat) ____________

Employer ____

Total work hours this week _____________

Please note the student's performance and progress in each of the following areas. Scale: 5=excellent, 4=above average, 3=average, 2=below average, 1=poor.

(1) Dependability ________
(2) Job knowledge ________
(3) Quality of work ________
(4) Quantity of work ________
(5) Appearance ________
(6) Job Planning ________
(7) Attitude ________

Supervisor's remarks ____

____

____

____

Supervisor's signature ________________________________ Date ________

Student's signature ___________________________________ Date ________

Co-op Director signature ______________________________ Date ________

Please file this report weekly. Mail to:

Ben Hill-Irwin Tech
Telecommunications Co-op
P. O. Box 1069
Fitzgerald, GA 31750

EMPLOYERS FINAL EVALUATION

The final evaluation report provides an overall view of the student-trainee's knowledge and performance in the general and technical areas covered by the telecommunications training at BHIT. The report will aid in evaluation of the training provided.

The evaluation form should be prepared by someone familiar with the student-trainee's work, usually his/her direct supervisor.

BEN HILL-IRWIN TECHNICAL INSTITUTE
TELECOMMUNICATIONS COOPERATIVE TRAINING PROGRAM
EMPLOYER'S FINAL EVALUATION FORM

Co-op Student Name____

Employer____

Please evaluate the student-trainee's knowledge and performance in the following areas comparing him/her with others of comparable academic and experience level and with other personnel assigned to the same or similar classified jobs. (Scale 5-excellent, 4-above average, 3-average, 2-below average, 1-poor)

AREA	KNOWLEDGE	PERFORMANCE
English	________	________
Mathematics	________	________
Interpersonal Relations	________	________
AC and DC Circuits	________	________
Digital and Solid State Devices	________	________
Computer Systems	________	________
Telephony Systems	________	________
Microprocessor Interfacing	________	________
Fiber Optics	________	________
Telecommunications System Installations	________	________
Telecommunications System Maintenance	________	________
Traffic Analysis	________	________
Network Design	________	________

Remarks____

____

____

____

____

____

____

____

____
Evaluator (Print or Type Name)

____
Signature

____
Date

Please prepare this report near the end of the student trainee's work experience and return to:

Ben Hill-Irwin Tech
Telecommunications Co-op Director
P.O. Box 1069
Fitzgerald, GA 31750